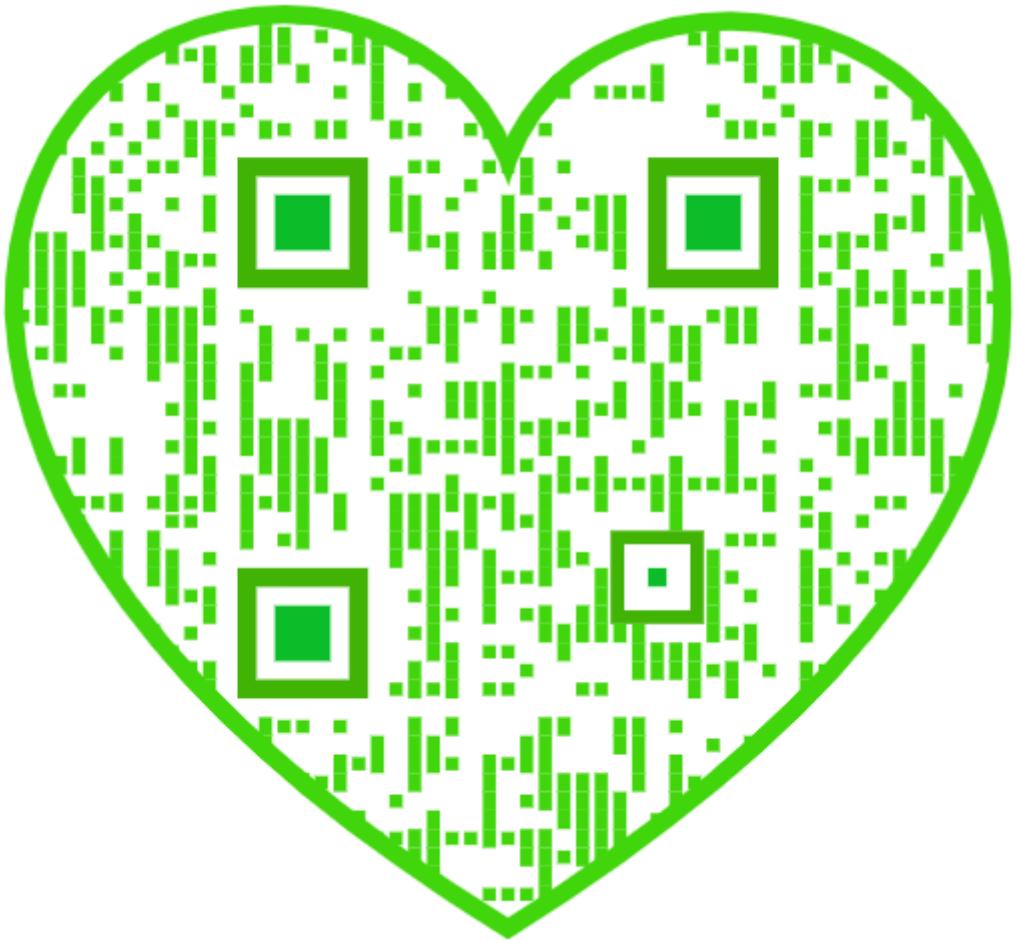

SUPERVISION OF CARS

PRACTICAL AND EFFECTIVE METHODS GOVERNING
THEIR CARE, USE AND MAINTENANCE.

SUPPLEMENT TO

THE SCIENCE OF RAILWAYS

BY

MARSHALL M. KIRKMAN.

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INTRODUCTION.

Cars and Men.

The Cars of a railroad are like the pockets in which men carry their wealth. If the pockets are full, the owners wear fine raiment, live sumptuously and wax fat; on the other hand if empty, their cheeks are hollow, their coats shabby and they carry about with them, withal, a creaky, hungry cough, that suggests the undertaker and the scrap heap.

Empty cars are like an empty stomach—they afford no nourishment to the body. On the other hand, full cars like a well nourished stomach, mean vigorous life with plenty of good red blood coursing through the system; and cars, like men, need plenty of exercise—but on full stomachs. Idleness in their case is what idleness is to men—waste, impoverishment, decay, premature death.

It is the province of those who look after the traffic of railroads to see that loads are provided for cars; and it is the duty of those who supervise the movement of equipment to see that it renders the maximum service with the least outlay and waste possible.

CHAPTER I.

Distribution and Use of Cars—The Car Service Agent.

The cars of a railroad are the receptacles in which its earnings are nourished. If delay occurs in filling these, or the supply is insufficient, or fails to nourish the system, the result is a breakdown, loss of vital force, perhaps bankruptcy.

It is with freight cars as it is with locomotives in regard to supply and demand. No railway can keep in the service sufficient vehicles to supply the maximum demand there will be on particular days, or during the rush season which attends the business of every carrier. The most it can do is to meet reasonable requirements. When business is normal little difficulty is found in supplying promptly, the demands of shippers. But when business is extra urgent, when the public clamor for cars, then the ingenuity of those in charge is taxed to the utmost to meet requirements, and so apportion the supply available as to satisfy the reasonable requirements of the public and gain the greatest revenue to the carrier with the least outlay incident thereto.

Railroads are built to do business; to make money, in the main, by carrying passengers and

freight. Of the needs of the passenger service, which, as a rule, is of stable and uniform quantity, facilities are generally adequate and the organization and disposition of the service simple and direct in consequence. With freight, however, it is different. This is ever an unknown quantity. The traffic department by wise and far-reaching industry, and through the exercise of tact and a promise to protect patrons in the handling of their goods, aids in building up a stable and lucrative business—if, concurrently, the operating department is able to meet the needs of the service with necessary cars and motive power. If either of these is lacking, however, business is delayed and oftentimes lost in consequence. This has always been true but with increased competition, has become more pronounced; and it may be truly said that there is very little freight carried by railroads that is not competitive; that some other carrier—by land or water—is not striving to gain or divert; and will gain or divert if able to offer better facilities—greater surety in regard to the movement of the traffic, and greater celerity in handling it. There are few situations, few localities so isolated that shippers are compelled to submit patiently to delays in supplying their wants. In remote parts of the world there may be, indeed there are, localities where the carrier may, with perfect reasonableness, decline to send a car forward until there is a full load, whether it be hours or days in filling. In such cases there is the maximum profit to the carrier.

Shippers understand the situation and their business is built up to conform thereto. They acquiesce perforce in the rule that cars must be filled, and afterwards will not be hauled until there are full train-loads. Thus the maximum train mile tonnage is assured the carrier to the great gratification of owner and manager, and the no less great shame and mortification of managers of other roads where traffic must meet the instant wants of the patrons or be lost; and where, too, the result of such futile operations will, nevertheless, be compared with the more favored company—and very likely criticised unjustly because of the relatively poor showing.

Delay in moving freight represents loss to manufacturers and merchants, possibly injury to trade; and, so, quite likely its diversion to some other point of shipment. Thus, if there is lack of effective service carriers may, and do, lose business. It follows, therefore, that not only must a railway be supplied with necessary equipment, but those in charge must exercise requisite skill in making it available—must meet the emergencies of business that mean prosperity or the reverse. And it needs no demonstration to prove that a railroad company may have sufficient equipment to meet every reasonable requirement and yet be unable to do so through lax methods—want of system in handling its cars. It is not probable that there are any such cases of general or aggravated occurrence, (for railway companies are ever wise in selecting their officers) but a feature to be considered is that a

single failure to comprehend the situation and meet it skillfully, foretells loss as real and palpable as the loss of a company's cash or securities through neglect to safeguard the same.

It is undoubtedly true that with some companies the movement of traffic requires the handling of dead weight to a greater extent than with others. Fortunate the carrier that has a load in both directions for his cars; but in every case a considerable percentage of empty cars must be hauled back and forth to meet the requirements of business. And this is an engrossing feature that invites and receives constant attention. The official in charge follows each individual car with watchful solicitude and is quick to sidetrack it for a load at the earliest possible moment. And when the returns for the month are summed up, he notes with anxious brow the relation that the mileage of empty cars bears to the mileage of loaded cars. And if he has added somewhat to the latter, he is gratified—and very properly so—for it represents a distinct gain to his company in dollars and cents.

The handling and distribution of cars, even where the supply is abundant, is attended by many embarrassments. Thus, in the midst of busy preparations to meet known or expected wants, a washout or a great storm will interrupt traffic, and so utterly disarrange all the plans that have been made—put back the movement of cars for hours, perhaps weeks. Needless to say, when such mishaps occur the officers of a railroad are greatly annoyed and, oftentimes, un-

justly criticised. On the other hand, everything else being propitious, there may be a lack of motive power, either through some temporary derangement of the system or absolute lack of engines to do the business. Such contingencies are unavoidable and always will be. But of these vexations shippers know nothing. Or, if the matter is explained to them, give the carrier little indulgence. Nor is it desirable, perhaps, that they should. Sharp criticism—continual and urgent demand for accommodation—even though unreasonable, while annoying, nevertheless urges a management to the utmost that its own conscience may be acquitted of blame.

The multiplication of classes of cars to meet different kinds of traffic while it has greatly fostered and increased the freight traffic of railroads, has added immensely to the labor of apportioning cars to meet the varied wants that these diverse vehicles are intended to serve. Thus it is well known that refrigerator cars have, through their adaptability, created an enormous traffic that did not, nor could not exist without them; and so it is in a lesser degree, perhaps, with other patterns of cars. Naturally these cars, adapted to peculiar needs, are eagerly sought by shippers and oftentimes when a standard box or flat car could be made to answer. Nevertheless, the carrier desires to afford the customer exactly what he wants, and it results from the demand, and the necessarily restricted supply, that the demand is always in excess of the supply, and probably always will be. Naturally the car that

a railroad company can utilize for the greatest number of purposes is the more profitable to it. For the cost to carriers in meeting demands for special forms of cars is greater than in other cases, for the reason that they oftentimes have to be moved long distances empty in order to reach the place where required. It is true, that because of the peculiar nature of the freight, or the greater amount that may be thus handled, there will be an offset in revenue, in some degree, to this expense. But on the other hand it too frequently happens that these special cars have no load except in one direction. The character of these cars needs only to be known to emphasize this fact. Thus there is a car specially adapted, with permanent coops, for live poultry whereby fowl may be watered and fed and kept apart in transit, and so brought to market in good condition; so, too, of cars for horses, supplied with stalls and water facilities; refrigerator cars for fruit, dressed meats, vegetables, beer and similar perishable freight. Now, while it is true that traffic thus handled may pay better than ordinary car-lots, yet the handling of the cars entails unusual expense and oftentimes the supply is out of all proportion to the requirements of the service.*

As a rule an official known as The Car Service Agent has supervision over the freight cars of railroads. When cars are required at any par-

*Among the forms elsewhere herein, will be found a "List of Freight Cars," comprising the different classes that are in more or less general use by the railroads of America.

ticular point he is advised and makes his dispositions accordingly. Great progress has been made in this particular branch of the service in the way of systematizing the work so as to prevent cars lying idle, and to otherwise insure the economical and effective handling of equipment. Thus, if a car is needed at any particular station and there is a car available nearby, the Car Service Agent has knowledge of both facts and the company is thus saved the expense of, perhaps, moving a car from a more distant point. He not only supplies the cars needed for traffic, but knows what cars are most available for the purpose. His duties are, consequently, very important. But he is much dependent upon others, especially division superintendents, train dispatchers, train masters and station agents; and their hearty and intelligent co-operation is imperatively necessary to make his work all it should be. Moreover if allowed the latitude that the good of the service requires he will be free at all times to investigate those cases where cars are not loaded or unloaded promptly and, so, brought back into the service in the shortest time possible.

It is apparent that good judgment and a discerning mind must be displayed in moving empty cars to see that in doing so they do not pass each other in opposite directions; in other words, that a nearer and more available car is not overlooked. Every mile that an empty car is hauled represents a loss to the carrier. It not only fills up space in the train, which other-

wise might be occupied by paying traffic, but the cost of hauling is also to be remembered. In order to prevent this waste and secure prompt and economical distribution of the equipment, it is apparent that the Car Service Agent must be in immediate touch with the situation on every part of the road; and as far in advance of actual needs as possible. Thus, he is oftentimes able to anticipate the movement of commodities in advance of actual orders being given for cars; and so by judicious disposition have the equipment at the moment, near or at the place where it is needed. This implies that he is something more than a man of routine; that he is an organizer in fact. The situation requires that he should be a general, an executive, marshalling his army of cars singly or in numbers, where needed, and by the shortest and most economical route. To do this, it is manifest, he must know the location of every car, just what vehicles are available, those that will be available tomorrow, and the next day, and so on, so far as practicable. And similarly, where cars are needed, not only today but tomorrow and the day following, so that the equipment at disposal can be placed where needed with the least loss of time and power.

This is one phase of the supervision of cars. And on a great railway—and all railways are great—the territory to be served is widely extended and its needs great and varied. Surveying such an extended field during the rush of business and the conflict of interest as between

shippers and profitable and relatively non-profitable traffic, it is apparent that a company may make great profit by the judicious handling of its equipment; or, *vice versa,* suffer great losses through lack of good judgment and promptness. And this loss may be incurred without the carrier being conscious of the fact that it might have been avoided. That is to say, that according to the talent, industry and authority of the Car Service Agent, and the co-operation he receives, a company will gain the utmost fruits of its enterprise; or, if contrary conditions exist, will suffer losses impossible to estimate, of which, through ignorance, and evasions, the management of a property may never be conscious.

It is probable there are few, if any, officers of a railroad more harassed, more importuned, and upon whom more difficult burdens are sought to be laid every minute of a busy season, than the car service agent. The traffic department turns to him to meet conditions it esteems imperative. Through it, and other channels, patrons cry aloud, and angrily, for cars—not of a uniform class, but differing, to meet particular conditions. Thus the Car Service Agent will be notified today that five hundred cars will be required within a week at an elevator or group of elevators, to move grain. This will require a particular kind of car. From another point will come a demand for cattle cars; from another, cars to move furniture; from another, coal; from another, refrigerator cars to move dairy products; from another, timber; and so the orders will

multiply, until the needs exceed by hundreds or thousands, the cars available for use.

The Car Service Agent in the discharge of his duties in placing cars is, among other things, called upon continually by the agents of other companies for cars to meet inter-road traffic. Moreover, there will always be more or less cars belonging to other companies on his road to be watched and judiciously used, or sent home as expeditiously as possible. A company must pay mileage on these foreign cars, or a certain rate per diem; and so use is made of them when practicable; or, if they cannot be used, returned to the owner with all haste. Thus he strives, when a call is made for cars by local agents, to load those belonging to other companies with traffic going to, or in the direction of the road owning the same. Where such use is practicable the cost of hauling them empty is saved, and instead of a loss some advantage may be reaped. The Car Service Agent is, however, always exercised in regard to such cars; to see when they have been sent him on requisition or in due course of business and that they are loaded promptly and sent on their way; or, if they come to him with loads, that they are promptly unloaded and disposed of. It is undoubtedly true that no company desires that its cars should be away from its home line any longer than necessary. Neither mileage nor per diem adequately remunerates it for such diversion. Nor is it adequately compensated in those cases where a fine is imposed on the holding company for delaying the return of

a car. The fine is a burden to the delinquent and not a salve to the owner. Because of this Car Service Agents and others cognizant of the situation actively strive to keep their cars off other roads and to keep the cars of other companies moving—profitably if possible, but, in any event, moving.

In distributing equipment the Car Service Agent endeavors to place cars that can be used for current traffic when they reach their destination: in other words, to have a load for them both ways. His efforts in this and other directions are aided and simplified by the co-operative energy, tact and experience of his fellow operating officers and the station agents along the road. Much ever depends on the last named. If they are skillful, alert and diplomatic they will succeed in having cars loaded and unloaded in minimum time. If they lack these qualities the reverse will be the case, to the great loss of a company. For, in this connection, it is true here as in the case of other fines, that the demurrage charged by railroad companies for delays in loading or removing freight do not compensate it for the loss it suffers from its equipment being idle - It is merely a palliative, a device intended to accelerate the movement of freight; to put pressure on the shipper to act with diligence, though nothing in any way unreasonable is asked of him. This feature of the service is and has been greatly facilitated by the creation of independent Car Service and Weighing Associations created by railroad companies acting in common; in other

words, consolidating their energies. It is the duty of the first named to see that a charge is made for demurrage when cars are not loaded or unloaded within a specified time. An equally important and necessary duty is that performed by the Weighing Association's agents, who are placed here and there throughout the jurisdiction of the Association, to weigh cars in transit and otherwise examine their contents to see that the carrier is not defrauded in regard to quantity or the nature of the freight. In reference to the Car Service and Weighing Associations and their usefulness, it may be said that their creation grew out, in part, of the strife of carriers to outbid competitors for business. Thus, to propitiate patrons carriers sometimes shut their eyes to delays in loading and removing freight, and even in regard to misrepresentations in reference to the quality or weight of freight. All this has been corrected through the Associations in question, as the managers and agents thereof represent a group of railroads, as a whole, and so having no private ax to grind, enforce tariff regulations frankly and impartially.

With the multiplication of cars (with every addition to the number thereof) greater and wiser supervision becomes necessary. Otherwise chaos will reign and the resources of a company be frittered away as the rain that falls from a roof. It may be said of the Car Service Agent, as it is of every railway official, that the greater his talent and alertness and resourcefulness, the greater the respect that will be paid him and

the more hearty the co-operation he will receive and, therefore, the more useful he will be.

His power, within the province of his office, should be commensurate with his responsibilities. His acts are founded upon accurate knowledge of the situation and the needs of the service, derived through returns and constant intercourse with those interested in the economical and expeditious movement of traffic. To divide the duty will be to weaken the service. Only the Car Service Agent commands the situation, not only by divisions, but for the road as a whole. He only is in touch with every condition and interest. And it rather adds to, than lessens, his usefulness that he acts, more often than otherwise, through division superintendents; officials, it is needless to say, as interested in effective service as he. But whoever the Superintendent designates to act for him in conjunction with the Car Service Agent—whether in his, the superintendent's office, or at the various freight districts, stations, or points of distribution—should be familiar with the geography of the road and the proper routing of both local and foreign cars. Concentration of authority and responsibility should be enforced everywhere; especially at stations. Here, either the yardmaster or agent should be supreme. Thus clashing will be avoided and if the service is ineffective it will not arise from confusion attendant upon the exercise of divided responsibility, but may be definitely located and action taken accordingly. And in reference to station officials

it is through them and not through conductors, that the movement of cars is ordered.

No empty car, it may be said, should be moved on a road except under orders from the Car Service Agent; and that there may be no confusion or frittering away of resources, all requisitions for foreign cars should be made by him. And of the movement of foreign cars on the line (after being unloaded) that, also, should be under his supervision, that their direction may be homeward and, meanwhile, that use may be made of them when practicable.

While it is true that the Car Service Agent's duties are restricted, in the main, to providing vehicles to meet the wants of shippers, and other fundamental things accessory thereto, his suggestions and surveillance should be invited in all things attending delay of cars from whatever cause. And he should be encouraged to watch the daily mileage of cars on his road with the object of ascertaining whether the average is favorable or not. And in this respect he will be aided in forming judgment by such comparisons as he may be able to make with the mileage of cars on other roads. These things harmonize naturally with the duties of the Car Service Agent, whose particular office it is to see that cars are effectively used; and, incidentally, that the greatest possible tonnage is moved therein without unnecessary delays. For the number of empty cars at his disposal will always depend upon whether cars are fully loaded and are handled with celerity. Every moment of delay

after a car is loaded puts off, by so much, its availability for handling new business.

All those through whom the Car Service Agent acts should be amenable to discipline by him. For he cannot otherwise enforce effective measures in the event of incompetency or neglect on the part of those upon whom the service is dependent for the efficient handling of cars. And so, if lacking authority, he will quickly become a mere creature of routine, a clerk, without voice or potency.

It is possible, nay probable, that on every road there will be more or less traffic corresponding in its regularity and scope to the passenger service. And when this is so the equipment intended to serve such business, will naturally and without special orders seek the point where it is needed. Thus it will be, perhaps, in regard to the return of stock cars to the places where they are loaded; and, similarly too, in regard to the movement of coal cars to coal centers, and so on. Moreover, as there are exceptions to every rule, so there will be emergencies, as in the case of wrecks and the chance accumulation of cars in congested districts, where the superintendent, or a lesser agent, must act quickly and independently of the Car Service Agent—but never without instantly advising him of such action.

In the discharge of his arduous duties the Car Service Agent will find it necessary to keep a careful record of the cars of his company in the possession of other lines. Only thus can he exercise a necessary check on the requisitions of

such companies for cars, or prevent unnecessary delay or improper use of his company's equipment. In this way he not only conserves the interests of his own company but, indirectly, of the other as well.

On those lines where compensation for the use of cars is based on mileage, there is no incentive to hasten the return of a car to its owner. It may be used furtively in local business, or may be sidetracked and left indefinitely if it is inconvenient to handle it. In any event it is not a subject of worry or expense to the holding company. On the other hand, what is termed the Per Diem system requires the payment of a certain sum per day for every day that a car of another company is held—the rate being greatly increased in the shape of a fine, after a stated length of time. The effect of this is, of course, to hasten the return of foreign cars, and in so far as this is the case it serves to lighten the harassing burdens of the Car Service Agent.

The handling of freight, like everything that attends living and growing industries, is one of transition. The things that were unheard of yesterday become common today. Thus, at one period, no special thought was given to the movement of freight, except particular classes, like live stock. It was put into a car and sent forward, and under the general rules of the company would, with other cars, find its way, in due course, to its destination. And this is true today with much of the freight that is moved. But there has grown up to meet the needs of business—

accentuated by competitive effort—what is termed "Time Freight," a species of traffic—not necessarily perishable—but of special significance in the economy of the service. The movement of such freight is as rigidly fixed (and oftentimes as rapid) as the movement of passengers. Within the time limit fixed the shipper and receiver, know within an hour when the freight will reach its destination. It thus corresponds to the express service in this country and the parcel traffic abroad. And of such importance is it in the operation of carriers and the needs of merchants and manufacturers that whole warehouses or sections thereof are set apart for their special use. Thus, a car loaded by a merchant, or in common, in Philadelphia in the afternoon will be unloaded in Pittsburg the succeeding morning; and this, with as much certainty as a passenger has that he will be transported a given distance within a certain number of hours. Time freight is watched throughout its journey by the Car Service Agent and others whose duty it is to see that no delay occurs, or if delay does occur, that it is instantly reported that action may be taken, as in other things of urgency and importance.

While the affairs of railroads are generally similar, there are always peculiar features to be considered in connection with each. These may relate to the geography of the road, its traffic, its equipment, or the peculiar characteristics of its officers. And of the last, the prosperity of a company it may be truly said, is as much affected as by any of the other three things mentioned.

It consequently falls out because of these diversities, and for other reasons not necessary to particularize, that the methods in vogue on different roads are not uniform. And of methods it may be said, they are like muskets; they must conform to the strength of the arm that holds them. The system that is admirable in the hands of one man, is ineffective in those of another. All are effective if effectively handled. Forms, therefore, are not of supreme importance. Nevertheless it cannot but be true that those which accomplish the most comprehensive ends with the least labor and greatest surety, are the most valuable. And it is along such lines, that the various forms in use by Car Service Agents have grown up. These forms, so far as it is thought necessary to include them, will be found elsewhere herein. They are the mediums through which the Car Service Agent, and others working along similar lines, derive their information in regard to the condition of affairs. From these returns the Car Service Agent knows from the reports of the conductors what cars are in transit and on what trains; and from the returns of agents, he is advised of the cars at each station, whether loaded or empty, the condition of the same—if in bad order,—what cars are needed to meet the demands of shippers, and the classes of cars needed. He has in fact every species of information necessary to a perfect comprehension of the company's needs and resources, both at home and on other roads. These returns will be found exceedingly interesting

and instructive to all wishing to acquire insight or practical knowledge of the business of handling the freight cars of railroads. I am indebted for these forms to those immediately connected with the car service of railways, but more particularly and especially to Mr. William P. Marsh, a veteran car service agent connected with one of the great railroads of the country.

Rules Governing the Interchange and Joint Use of Cars by Railroad Companies.

In order that there might be uniformity of action by railroads, in the use of the cars of other companies, and for other good reasons, rules and regulations governing such use have been promulgated by the railway companies interested. These are enforced in good faith on the lines subscribing to the agreement.

(Note.—I do not refer here to the rules and regulations of the Master Car Builders' Association, but to others relating to the common use of cars by carriers.)

While these rules are changed in minor particulars from time to time, to meet new conditions they are, in general effect, as follows:

1st. Foreign Cars (that is the cars of other companies) are required to be promptly returned to the home roads—and by "Home Road" is meant the road which owns the car, or upon which the home of the private car is located.

Foreign cars may be properly used as follows:

(a) Loaded to points on or reached by using the home road.

(b) Loaded to intermediate points in the direction of the junctions at which they were received.

(c) If returned empty, they should be moved over the routes by which they were received.

Foreign cars may be sent empty in the direction opposite to

the junctions at which they were received for loads to points on or reached by using the home roads, but not otherwise.

Foreign cars must not be sent empty to connecting roads without the permission of the owners, except for switching service. Loaded or empty cars received for switching service must be confined to switching limits, and returned to the home or the delivering road.

When empty foreign cars are delivered by one line to a connection for return loading via the road making the delivery, they must be so loaded and returned.

If loaded foreign cars on their return movements are reconsigned and such re consignments would cause diversions of the cars, the lading must be transferred under the rules governing transfers at points of diversion, if this can be done without injury to it, and the cars must be returned to the owners or to the roads from which they were received. In case the lading is of such a character that it cannot be transferred without injury, the cars may be run through as re-consigned, but the facts of the case must be promptly reported to the owners of the cars.

Cars shall be considered as having been delivered to a connecting railroad when placed upon the track agreed upon and designated as the interchange track for such deliveries, accompanied or preceded by proper data for forwarding and accepted by the car inspector of the receiving road.

Unless otherwise arranged between the roads concerned, the receiving road shall be responsible for the car's contents and per diem after receipt of the proper data for forwarding and until they have been accepted by its inspector or returned to the delivering road.

New freight cars shall be stenciled when built with actual light weight, date of weighing, and capacity. Steel cars shall be re-weighed and re stenciled within the first year thereafter, and wooden cars at the end of the first and second years.

All cars which have received general repairs shall be weighed and stenciled, with the actual weight, immediately before being put back into service.

Any car without stenciling shall be immediately weighed and stenciled. New weights of foreign cars shall be reported to car owners.

The maximum excess allowed over the marked capacity of freight cars shall not exceed 10 per cent. of such marked capacity.

The placing of advertisements or placards of any kind by shippers upon freight cars is prohibited.

CHAPTER II.

List of Car Service Agents' Forms.

In embodying the accompanying forms it is not sought to convey the idea that these particular forms are in use on every road, or that they are better than others. The same diversity exists in this particular field of industry that does in every other. Each company uses the forms that, according to its lights, are best adapted to its wants. And many of them have been aided in this by careful inquiry into the practices and forms used by other companies. The most that can be said of the accompanying forms is that they have been found to meet the requirements of particular roads and so have, therefore, a practical value. Their greatest use, here, to the student, is in the way of illustration.

The explanation of the forms has been compiled with the same view—to aid those who are not practically familiar with the work of supervising the movement of cars. The forms used by the car service agent, like all forms of a like nature, are his means of focusing operations—aids in supervising and regulating his business.

C. S. 1. THE LOCAL FREIGHT CAR RECORD.
C. S. 2. FOREIGN FREIGHT CAR RECORD.
C. S. 3. CONDUCTOR'S REPORT OF FREIGHT TRAIN.

C. S. 4. REPORT OF INTERCHANGE OF FREIGHT CARS WITH OTHER LINES.
C. S. 5. POSTAL CARD NOTICE TO OWNER OF CAR OF ITS CARS DELIVERED BY A FOREIGN LINE TO ANOTHER FOREIGN COMPANY.
C. S. 6. TRACER FOR DELAYED FREIGHT CARS.
C. S. 7. DAILY REPORT OF FREIGHT CARS ON HAND.
C. S. 8. AGENT'S ORDER FOR FREIGHT CARS.
C. S. 9. FOREIGN CAR ORDER.
C. S. 10. TELEGRAPH NOTICE TO AGENTS OF FREIGHT CARS BILLED TO THEM.
C. S. 11. TELEGRAPH ORDER DIRECTING MOVEMENT OF FREIGHT CARS.
C. S. 12. NOTICE OF ERRORS AND OMISSIONS.
C. S. 13. TELEGRAPH EMPTY CAR REPORT.
C. S. 14. SUPERINTENDENT'S TELEGRAPH REPORT OF FOREIGN FREIGHT CARS ON HAND FOR WHICH THERE IS NO USE.
C. S. 15. SUPERINTENDENT'S DAILY TELEGRAPH REPORT OF FREIGHT CARS WANTED AND AVAILABLE.
C. S. 16. RECORD OF ORDERS RECEIVED BY CAR SERVICE AGENT FOR FREIGHT CARS.
C. S. 17. AGENT'S TELEGRAPH REPORT OF TIME FREIGHT FORWARDED.
C. S. 18. AGENT'S TELEGRAPH REPORT OF TIME FREIGHT ENROUTE.
C. S. 19. CONDUCTOR'S TELEGRAPH REPORT OF TIME FREIGHT LEFT (DELAYED) ENROUTE.
C. S. 20. AGENT'S TELEGRAPH REPORT OF DELAYED TIME FREIGHT FORWARDED.
C. S. 21. LIST OF FREIGHT CARS.

CHAPTER III.

Forms Used by Car Service Agent.

C. S. 1.

The Local Freight Car Record.

This blank is used by a railroad company for the purpose of recording the movements of its freight cars on its own (home) line and the movements of its freight cars on other (foreign) lines as well. Each page of the record has four sections like the form herewith. The blank is thus ruled to provide a record of fifty cars to a page. On each side of the page are printed the two ending figures of car numbers, the full numbers of the cars—as illustrated—being written in at top of each page. In the first column to the left is entered the last record in preceding book. At the top and bottom of the page are printed the dates of month. This arrangement enables the records to be entered in the proper date column without writing in the dates. In explanation of this form, a practical illustration is given: thus Car No. 7102 was at station No. 43 on the 15th. The book is arranged to run four months. At the expiration of this period a transfer into a new record is necessary. This form of local record book is in use by many railroad companies with perhaps some slight variations. The car numbers are entered herein daily from conductors' reports; agents' reports of cars interchanged with other roads; and reports from foreign roads of cars delivered to other lines. Two kinds of ink are generally used; black to designate loaded cars; red to designate empty cars. Cars on foreign lines may be entered in black ink; some roads use purple ink to record cars that are away from home.

LOCAL FREIGHT CAR RECORD. C. S. 1.

(¼ of the page.)

Movements of Cars from _____ 19___ to _____ 19___

(Illustration: Cars Nos. 7100 to 7198.)

Last Record brought forw'd	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
00																																00
02															43																	02
04																																04
06																																06
08																																08
10																																10
12																																12
14																																14
16																																16
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32																																32
34																																34
36																																36
38																																38
40																																40
42																																42
44																																44
46																																46
48																																48
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

C. S. 2.

Foreign Freight Car Record.

This blank is used by a company to record the movements of foreign freight cars in its possession.

Across the top and bottom and center of the page are printed dates of month to facilitate entries. To the extreme left are columns provided for car numbers, a column to enter from what railroad received, at what station received, date of receipt, location of car (if transferred from preceding month's record) and date of said location. Thus, as an illustration, car 4073 was received from the Illinois Central R. R. at station No. 4 on April 23rd; it was at station No. 86 April 30th, according to the previous month's record, and at station No. 350 the 10th of the current month.

This record is intended to run one month. At the top of the page is entered the name of the road owning the cars, and the month and year for which the record is used. To the side and bottom margins may be affixed heavy paper tabs on which the name of the owners of the cars may be entered. By this means of indexing the owner can be located without loss of time.

Two colors of ink are used; black for entering the movements of loaded cars, red for empty cars. This form of foreign record is used more or less generally. The system of indexing suggested is a particular feature that it is thought will appeal to car service officers.

FOREIGN FREIGHT CAR RECORD.

C. S. 2.

Record of Movements of _____ R. R. Freight Cars During Month of _____ 19___

CARS RECEIVED							Last Record Brought Forw.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Car No's				Rec. from R. R.	At Sta.	DATE	At Sta.	DATE																																
4	0	7	3	I.C.	4	4	23	86	4/30									350																					

C. S. 3.

Conductor's Report of Freight Train.

This form is used by freight train conductors in rendering a return of freight cars hauled in their trains. It is the basis—source of information—of car records, forms 1 and 2. It is consequently of the greatest importance. Its essential features, aside from certain important details relative to the trains, are whether cars are loaded or empty, car initials, car numbers, point billed from, point billed to, where taken into trains, and where left. In addition to this the weight of and contents are required for purpose of tonnage statistics.

To facilitate the uses of the conductor's train reports by different departments, it can be made in duplicate by the insertion of a carbon sheet.

CONDUCTOR'S REPORT OF FREIGHT TRAIN. C. S. 3.

FREIGHT CONDUCTOR'S TRIP REPORT. *Train No.*_____ *Date*_____ *19*____

*Ordered to leave at*_____*M.* *Left*_____ *at*_____*M.* *Arrived at*_____ *Station at*_____*M.*

*Conductor*_____ *Brakeman*_____

	CLAIMED.		ALLOWED	
	Through	Way-Freight	Through	Way-Freight
Scheduled Mileage, - - - -				
Overtime, - - - - - - -				
Delayed Time, - - - - -				
Switching at Terminals, - -				
Total Mileage for Day's Work,				

*Miles run*_____

REMARKS.

The numbers and initials of cars must be taken from the cars and not from way-bills.

	INITIALS	CAR NUMBERS		OFFICE CHECK COLUMN	BILLED FROM	BILLED TO	WHERE TAKEN	WHERE LEFT	CONTENTS	CAR MILE-AGE	Weight of car & contents in tons	This column is to be left blank.	
		Loaded	Empty									TON	MILES.
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													

C. S. 4.

Report of Interchange of Freight Cars with Other Lines.

This form of report is to notify the car service official of the interchange of freight cars with connecting lines. It is of great importance. It gives particulars of cars delivered to the connecting lines and a similar blank shows cars received from connecting lines. The form explains its particular details.

Care must be exercised by agents in writing up this report, for if a car should be omitted or incorrectly given it would not harmonize with the conductor's report of cars moved, thus creating confusion and necessitating letters of inquiry upon the part of the Car Service Agent.

C. S. 4.

REPORT OF INTERCHANGE OF FREIGHT CARS WITH OTHER LINES.

Station, No._____

DAILY INTERCHANGE REPORT OF CARS DELIVERED TO_____R_____

X Loaded.
— Empty.

From_____M., to_____M.,_____19__

INITIALS 1	Kind of Cars. 2	NUMBER 3	X 4	Check	POINT OF SHIPMENT 5	FINAL DESTINATION 6	CONTENTS 7	Hour Delivered 8
				1				
				2				
				3				
				4				
				5				
				6				
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
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				20				
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				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				
				40				
				41				
				42				
				43				
				44				
				45				
				46				
				47				
				48				
				49				
				50				

I certify that these cars were received as above.

_____Agent_____R_____

_____Agent.

C. S. S.

POSTAL CARD NOTICE TO OWNER OF CAR OF ITS CARS DELIVERED BY A FOREIGN LINE TO ANOTHER FOREIGN COMPANY.

JUNCTION REPORT OF CARS DELIVERED TO OUR CONNECTIONS.

On.....19..... (Printed Signature)

(Title of Officer)

X Loaded. —Empty. (Address)

CAR.		X —	DELIVERED TO (Full Initials)
Full Initials.	Number.		

NOTE.—This form is used by foreign roads to notify owners of the delivery of their cars to still other lines. It is the source of information from which the record is compiled by the owner of whereabouts of the car on foreign lines.

C. S. 6.

TRACER FOR DELAYED FREIGHT CARS.

OFFICE CAR SERVICE AGENT.

_____ *19*____

_____

*Agent,*_____

Dear Sir:

*According to my record*_____

*car No.*_____

_____

*arrived at your station on*_____

since which time it has not moved.

Please note hereon disposition made of this car and return this letter by first train.

_____

Car Service Agent.

To the Car Service Agent,

Dear Sir:

Below find disposition of equipment specified above.

_____

_____

_____

_____

(*If car has been forwarded, give date, train and destination.*)

_____

Agent.

NOTE.—The above is a printed form of letter of inquiry which is sent to station agents to secure disposition of freight cars the movement of which seems to be unduly detained. This blank is also used to secure information regarding disposition of cars that have been delivered to connecting lines and not reported; also of cars moved by conductors and not reported. Through its use car service officer traces and secures movement of delayed cars.

Form C. S. 7.

Daily Report of Freight Cars on Hand.

This report must include all freight cars at the station at the time made, or on tracks connected therewith, over which the agent has jurisdiction. It must be made at 3 o'clock in the afternoon of each day (Sundays excepted) whether cars are loaded or empty, the numbers being placed under the proper heading. The report must be made in duplicate, one copy being sent to the Division Superintendent and one to the Car Service Agent. Full reasons must be given for any detention of cars. Through this report those interested are advised of the location of every car on a road, (at stations and on sidings) and so are enabled to take measures in regard to the disposition of same. Full initials of the road owning the car should be given in the first column. In the column headed "Description of Car" the following abbreviations will be used:

Long Box (34 ft. long or over)...L. B.	Special Feed and Water.F.&W.
Short Box (under 34 ft.)..S. B.	Special Feed.....Feed
Hay Cars.....H. C.	Double Deck..... .....D. D.
Furniture Cars (show length)..F. C.	Short Single Deck.....S. S. D.
Refrigerator..... .....R. F.	Long Flat.....L. F.
Common Coal Long ...C.C.L.	Short Flat (under 34 ft.)..S. F.
Common Coal Short...C.C. S.	Raised Center Flat .. R. C. F.
Drop End Coal Cars..D. E. C.	Work Train Flats....W. T. F.
Low Side Gondola....L. S. G.	Burk and Chain Flats..B. C. F.

DAILY REPORT OF FREIGHT CARS ON HAND.

C. S. 7.

At _____ Station, 3 o'clock P. M. of _____ 19__

_____ Agent.

	Whose Car.	No. of Loaded Car.	No. of Empty Car.	Description of Car.	Date of Way-Bill.	Date Arrived.	Date Placed for Unloading.	NO. OF DAYS DETAINED.			Contents.	Consignee.	Is Car Service Being Collected?	Reason of Delay.
								Unloading.	Empty.	Loading.				
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														

C. S. S.

AGENT'S ORDER FOR FREIGHT CARS.

RECEIVED FROM	TIME RECEIVED	SENT BY	RECEIVED BY

From ..... Station ..... 19..

To CAR SERVICE AGENT .....

A. Order No. ..... Time filed ..... M.

B. Number of cars wanted .....

C. Initials .....

D. Class of cars wanted .....

E. Size of cars wanted .....

F. Where wanted .....

G. To be loaded with .....

H. Destination of load .....

I. Routing in full including point car leaves our rails .....

J. Latest date cars can be used .....

K. Remarks: .....

NOTE.—This car order blank is used by agents to place orders for freight cars for a specific purpose and is so arranged as to enable them to specify the kind of cars needed; destination of load; kind of freight to be loaded; the routing, if it leaves the rails of home line; date on which the car must be ready for loading, and so on. There is also a space provided for any special instructions that the agent may wish to give in placing the order. If the order is sent by telegraph only the letters are indicated therein: as, say, "B" would be understood to mean "Number of cars wanted," etc.

The blank spaces at top are filled up by the telegraph operator.

FOREIGN CAR ORDER. C. S. 9.

OFFICE OF CAR SERVICE AGENT.

_____ 19___

_____

_____

Order No._____

Deliver us _____

Carded _____

_____

_____

To load with _____

Destination _____

Route _____

_____

_____
Car Service Agent.

NOTE.—This blank is used by the car service agent as a requisition on other companies for freight cars to load via their lines; that is if he is unable to pick up the foreign equipment he requires, on his own road.

Car Service Telegraphic Code.

Codes by which information in regard to the movement of freight cars can be sent by telegraph with the least delay and labor are in general use to meet the requirement of the car service bureaus. The following is one method. The principal stations, junctions and division stations are designated by one or more letters. To each station thus lettered is assigned a series of numbers to be used in numbering the way-bills for cars which are to be reported to the car service agent enroute. Each code station uses its numbers consecutively, commencing with the lowest. When the highest number has been reached, the agent commences anew with the lowest number, and so on. Thus to Chicago might be assigned the prefix "CH."; St. Louis, "S.L."; Memphis, "M", with number series 1 to 500 each inclusive. Cars originating at Chicago would be known as C. H. 1, C. H. 2, C. H. 3, etc., and so reported by the agent at Chicago to the Car Service Agent. The agent's report is filed as a permanent record and to it is added the movement of the cars as they are reported by code stations enroute. Cars way-billed with a code letter and number are reported to the Car Service Agent by telegraph under their respective code letter and number only, no reference being made to the car initials or numbers. The code letter indicates the forwarding station and the number of the car. Thus, the Car Service Agent can quickly refer to the record and enter thereon the progress of the car from station to station, and, if need be, take steps to remedy any delay that occurs. The system effects a great saving in telegraph work and lessens the labor of the Car Service Agent.

TELEGRAPH NOTICE TO AGENTS OF FREIGHT CARS BILLED TO THEM.

_____

_____ _____ 19____

To_____

_____

We have billed to (A)_____on

order number (B)_____the following cars_____

_____

_____

_____

_____

Car Service Agent.

NOTE.—The above blank is used by the car service agent in notifying agents of freight cars billed to them to apply on their orders. They are thus kept advised as to progress made in filling their requisitions and advised on what orders the cars are to be applied when received. The car service agent in telegraphing uses only the letter "A," which the recipient understands to read "We have billed to you"; similarly, "B" means "On order number."

C. S. 11

TELEGRAPH ORDER DIRECTING MOVEMENT OF FREIGHT CARS.

OFFICE OF THE CAR SERVICE AGENT.

_____ _____ 19____

_____

_____

ORDER No._____

BILL TO_____ _____ _____

_____

_____

NOTE.—The above is a form used by the car service agent in telegraphing orders for movement of freight cars.

C. S. 12.

NOTICE OF ERRORS AND OMISSIONS.

OFFICE CAR SERVICE AGENT.

_____ 19____

_____

_____

DEAR SIR:

On your Car Report Form_____

Date_____ 19____

your report_____

_____

_____

It should be_____

_____

_____

You will please make correction as indicated above and return this with your reply without delay.

Yours respectfully,

_____

Car Service Agent.

NOTE.—The above is form of advice used by the car service agent to notify conductors and agents of errors in their reports. By this means conductors and agents correct errors in their respective records, so that if information is asked of them subsequently they will be able to answer correctly.

C. S. 11

TELEGRAPH ORDER DIRECTING MOVEMENT OF FREIGHT CARS.

OFFICE OF THE CAR SERVICE AGENT.

_____ _____ 19____

_____

_____

ORDER No._____

BILL TO_____ _____ _____

_____

_____

NOTE.—The above is a form used by the car service agent in telegraphing orders for movement of freight cars.

DEAR SIR

INSTRUCTIONS.—This report must be made in detail each day and transmitted by telegraph to the Chief Dispatcher at the designated time. At the end of each month it must be filed so that it can be produced at any time.

C. S. 13.

Telegraph Empty Car Report.

This is a form of agents' daily telegraph car report used on some lines. The blank is arranged to last one month. It serves as a permanent record and should be carefully preserved and filed for future reference. It is similarly used by the Chief Dispatcher in recording the report; from it he compiles the condensed report to the Car Service Agent for the division. The information in regard to each class of cars is grouped together and to each group and column is assigned a letter which is used to facilitate transmission. Thus, in reporting a shortage of ten empty furniture cars, all that need be sent is "V. A-V-10," and so on.

Four items are shown under the several classes of equipment, namely: Shortage of empty cars; Surplus of empty cars; Empty cars wanted, and cars actually unloading. With this information the division official can make intelligent provision for the needs of each station on his division and at the same time the Car Service Agent can relieve a shortage on one division from a surplus that may prevail upon another division.

TELEGRAPH EMPTY CAR REPORT.

C. S. 13.

From Station_____ For month of_____ 19____

"V" SHORTAGE OF EMPTY CARS.—Make an intelligent estimate of cars required in excess of the cars available within the next twenty-four hours, either for local loading or for delivery to connecting lines, by taking into account the empties on hand, loaded cars which are likely to become available by unloading, the probable receipts of empties from connecting lines within the next twenty-four hours; also, the general condition of business, and report as shortage only such cars as it is necessary to forward from other points

"W" SURPLUS EMPTY CARS.—Include such empty cars as are on hand at the time of the report which can be spared without interfering with business during the next twenty-four hours. Do not include slip billed cars awaiting transit. Give initials of foreign cars and home routes. Junction stations will not include switched cars to be returned to connecting lines, nor foreign cars awaiting delivery to home lines which, therefore, are not available for loading.

"X" EMPTY CARS ON HAND WANTED.—Do not include cars in process of loading, nor empty cars which will not be required within twenty-four hours.

"Y" CARS ACTUALLY UNLOADING.—Large stations will only report the number for each column, other stations will report in detail, giving initials of foreign cars. Junction stations will not include switched cars to be returned to connecting lines when empty, nor other foreign cars which will be delivered to home or connecting lines when empty, and which, therefore, will not be available for loading via this road.

	FURNITURE A				BOX 36 FT. AND OVER C				BOX UNDER 36 FT. D				PALACE STOCK G				SINGLE DECK STOCK H				DBL DECK STOCK J				FLAT K				GONDOLA M				REFRIGRTR N				MISCEL. Tank, Poul. Etc. Q				TIME SENT
DATE	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	V Shortage	W Surplus Empty Cars	X On hand Wanted	Y Actually Unloading	

INSTRUCTIONS.—This report must be made in detail each day and transmitted by telegraph to the Chief Dispatcher at the designated time. At the end of each month it must be filed so that it can be produced at any time.

C S. 14.

Superintendent's Telegraph Report of Foreign Freight Cars on Hand for Which There is No Use.

This is a telegraph form for reporting foreign freight cars remaining on hand for which no home load is obtainable.

This report gives the initials and numbers of all foreign cars. This information is telegraphed to division headquarters daily by every agent having such cars on hand and is there consolidated in one report. This last is telegraphed to the car service officer, who immediately examines the same and indicates disposition to be made of cars thus reported. This he telegraphs to the division headquarters. In sending the report only the letters at the head of the columns are used. Thus "A" indicates the location of the car as "A" Toledo, "B" initials, etc. By means of this report the car service officer is each day advised of all surplus foreign cars on the line, and is thus enabled to move them to points where home loading can be secured; or, in event there is no load, to give directions as to what line and via what junction they shall be sent home empty. An important purpose of this report is to enable the car service agent to hasten the return of foreign equipment for which there is no use.

C. S. 14.

SUPERINTENDENT'S TELEGRAPH REPORT OF FOREIGN FREIGHT CARS ON HAND FOR WHICH THERE IS NO USE.

To Car Service Agent: _____ 19____

Foreign Freight Cars on hand Empty at 6 P. M.

	LOCATION A	INITIALS B	CAR NO.	Kind C	Len. Feet D	ORIGINAL RECEIPT H		Date	DISPOSITION J
						Road	Point		
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									

This report should also include cars stored or held for prospective business.
One car number only should be inserted on each line.
When necessary to use second sheet commence it (in first column) with No. 28.
Columns H and J should not be filled up.

Signature_____

C. S. 15.

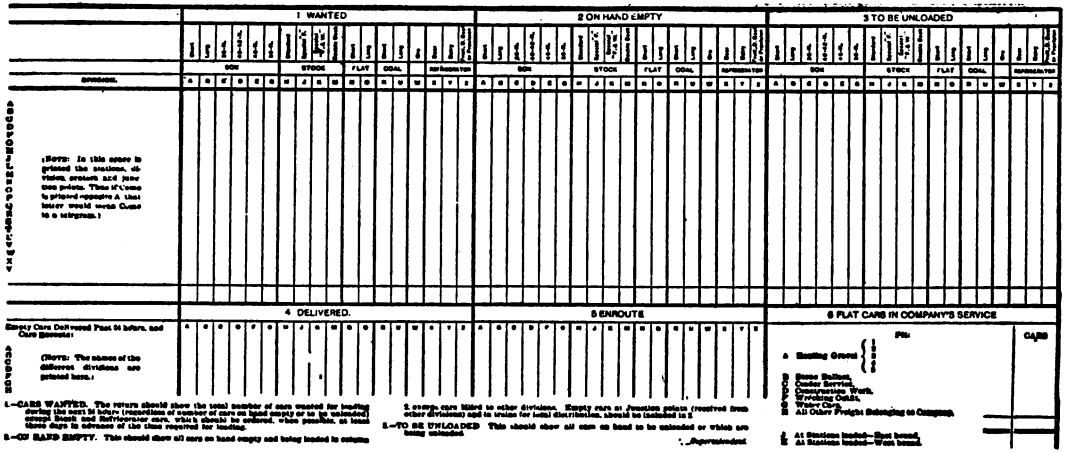
Superintendent's Daily Telegraph Report of Freight Cars Wanted and Available.

This form of telegraph report is made daily to the car service agent at 7:30 A. M. by division superintendents. It shows what cars are needed and the equipment on the division that can be applied thereon. The blank is so arranged that all necessary information can be transmitted by wire with the minimum telegraph work. The different lengths of box cars, different classes of stock cars and different lengths of flat and coal cars being each represented by a single letter. The blank is subdivided so that spaces are provided for cars wanted; empty cars on hand; cars to be unloaded; cars delivered connecting divisions; cars enroute; and cars in special service. The different subdivisions are represented by a numeral. Thus, if the superintendent wished to notify the car service agent that ten long box cars were wanted at station "G," he would telegraph "1-B-10 G." Or, if he wished to notify the car service agent that there were thirty-three long empty box cars on hand at station "G," he would telegraph "2-B 33 G;" and so on through the six subdivisions. All the receiving operator has to do in the first instance is to enter upon the blank the figure "10" in subdivision "1" in column "B" opposite station "G." And in the case of long box cars on hand empty at station "G," he would enter "33" in subdivision "2" column "B" opposite station "G."

This report indicates the car situation on the various divisions of a road with the minimum of telegraph work, and upon it the car distributor greatly relies in moving cars between divisions, etc.

SUPERINTENDENT'S DAILY TELEGRAPH CAR REPORT OF FREIGHT CARS WANTED AND AVAILABLE.

To Car Service Agent. 7:30 A. M. 19


1 WANTED
2 ON HAND EMPTY
3 TO BE UNLOADED
BOX
STOCK
FLAT
COAL
REFRIGERATOR
DIVISIONS
(Note: In this space to printed the sections, divisions, connections and home town points. Time if it were to printed opposite A that letter would mean Came in a telegram.)
4 DELIVERED.
5 ENROUTE
6 FLAT CARS IN COMPANY'S SERVICE
Empty Cars Delivered Past 24 hours, and Cars Ignored:
(Note: The names of the different divisions are printed here.)
Flat
Cabs
A Bunting Gravel
Stone Ballast, Cinder Service, Construction Work, Working Cabin, Water Cars,
All Other Freight Belonging to Company
A1 Stations loaded—West bound.
A1 Stations loaded—East bound.

1.—CARS WANTED. The return should show the total number of cars wanted for loading during the next 24 hours (regardless of number of cars on hand empty or to be unloaded) except Stock and Refrigerator cars, which should be ordered, when possible, at least three days in advance of the time required for loading.

2.—ON HAND EMPTY. This should show all cars on hand empty and being loaded in column 3, except cars billed to other divisions. Empty cars at junction points (received from other divisions) and in trains for local distribution, should be included in 5.

3.—TO BE UNLOADED. This should show all cars on hand to be unloaded or which are being unloaded.

Superintendent.

C. S. 16.

Record of Orders Received by Car Service Agent for Freight Cars.

This form is to record orders received for freight cars. It is bound in book form. The form shows: First, date of filing the order; order numbers; where cars are wanted; number of cars required; kind of cars—whether box, stock, furniture, refrigerator, and so on; length of cars, carrying capacity, destination, routing (if destined to point beyond the home line); date cars must be at station for loading and (if ordered from connecting line) a column for name of road with whom the order is placed. Space is also provided for recording numbers and initials of cars furnished on each order.

Orders are numbered consecutively and all correspondence referring to each order is kept intact and filed for reference.

By means of this record the car service agent is kept advised of cars wanted.

The record is one of value and is referred to constantly. Thus in looking up the diversion of foreign equipment (furnished on orders) it is possible to locate the same at once by this record.

C. S. 16

RECORD OF ORDERS RECEIVED BY CAR SERVICE AGENT FOR FREIGHT CARS.

DATE		ORDER NO.		WHERE WANTED	No. of Cars Wanted	DESCRIPTION			DESTINATION	ROUTING	Date Wanted	Ordered From	CARS FURNISHED
Month	Day	Car Ser. Agts No	Train Des. No.			Class	Length	Capacity					

AGENT'S TELEGRAPH REPORT OF TIME FREIGHT FORWARDED. C. S. 17.

15 REPORT.

Station_____ Date_____ 19___

The following cars of TIME FREIGHT left this station on Train No._____ at_____ M.:

Code Letter and Number	CAR		CONTENTS	DESTINATION	If final destination is to point beyond our line, give		Station	Time Left	Train	Date	Station	Time Left	Train	Date	Delivery to Connecting Line			
	Initials	No.			Junction point where it leaves our line	Routing beyond									Time Arr.	Time Del.	Date	Name of Line
A	B	C	D	F	G	H												

(a)_____ Agent.

(b)_____ Yardmaster.

This should be sent to car service agent by telegraph immediately after departure of cars.

NOTE.—This form is used by agents to notify the car service agent of the forwarding of "Time Freight." The various columns provide for code letter and number assigned to the station, car initials, number, etc.

Thus "A" is the code letter signifying the station, "B" initials of the car, "C" number of car, and so on. In this respect it is the only report in which the initials, number, contents and destination of cars are given; in other reports of the movements of cars (after forwarding) they are designated entirely by code letter and code number.

C. S. 18.

AGENT'S TELEGRAPH REPORT OF TIME FREIGHT EN-ROUTE.

Station_____ Date_____ 19____

The following cars, Way-billed TIME FREIGHT, passed this Station (or were delivered Connecting Line) on date and time given below:

CODE LETTER AND NUMBERS			TIME ARRIVED	TIME LEFT or Delivered Connecting Line	TRAIN NUMBER
Code Letter	From Lowest Number	To Highest Number			
B	C	D	F	G	H
			M	M	
			M	M	
			M	M	
			M	M	
			M	M	
			M	M	
			M	M	
			M	M	
			M	M	
			M	M	

(A)_____ Yardmaster.

(B)_____ Agent.

NOTE.—This report is sent by telegraph to the car service agent, immediately after arrival and departure of cars. The form is used for reporting by telegraph the passing of time freight by agents at freight terminals. The code letter; code number; arriving time; time of departure and number of train is all that is required.

C. S. 19.

CONDUCTOR'S TELEGRAPH REPORT OF TIME FREIGHT LEFT (DELAYED) ENROUTE.

The following cars, way-billed TIME FREIGHT, were set out (left) at Station_____

Date_____ 19___

CODE LETTER AND NUMBERS			By Train No.	REASON (Give exact cause for leaving car)
Code Letter	From Lowest No.	To Highest No.		
B	C	D	F	G

_____ Conductor.

Train No._____

NOTE.—This report is made promptly and handed to the operator at the nearest telegraph station, who should send it at once to the car service agent, a copy being sent to the chief train dispatcher of the district on which cars were left. It is used by conductors to report to the car service agent time freight left short of destination. It is telegraphed in the condensed form shown, nothing being transmitted except code letter and code number, number of train setting out car and reason therefor.

C. S. 20

AGENT'S TELEGRAPH REPORT OF DELAYED TIME FREIGHT FORWARDED.

The following cars, Way-billed TIME FREIGHT, which have been delayed, were forwarded from_____Station _____19___

CODE LETTER AND NUMBERS			TIME FORWARDED	TRAIN NUMBER
Code Letter	From Lowest Number	To Highest Number		
B	C	D	F	G
			M	
			M	
			M	
			M	
			M	
			M	
			M	
			M	
			M	
			M	

(A)_____Yardmaster

(B)_____Agent

NOTE.—This form is used by agents and yardmasters to advise the car service agent by telegraph of the forwarding of delayed cars loaded with time freight; only the code letter, code number, time of forwarding, and number of train in which forwarded is transmitted. The report aids the car service agent in his supervision over time freight.

O. S. 21.

LIST OF FREIGHT CARS.

Box	Car.	Common type.
"	"	Furniture and Vehicles.
"	"	Wooden Ware.
"	"	Hearse.
"	"	Ventilated.
"	"	Ice.
"	"	Charcoal.
"	"	Lime.
Refrigerator	"	Common.
"	"	Beer.
"	"	Dressed Beef.
"	"	Dairy Products.
"	"	Ventilated Fruit.
Stock	"	Common.
"	"	Double Decks.
"	"	Single Deck Feed and Water.
"	"	Palace Horse with Stalls,
"	"	" Stock " "
Flat	"	Common.
"	"	Logging.
"	"	Barrel Racks.
"	"	Machinery.
"	"	Gun Trucks.
"	"	Water Tanks.
Gondola	"	Common.
"	"	Hopper Bottom.
"	"	" " Steel.
"	"	Drop Ends.
Ore	"	Iron, etc.
Tank	"	Oil, etc.
Live Poultry	"	
Ballast	"	
"	"	Distributers.
Lidgerwood Rapid Unloaders.		
Caboose	Cars.	
"	"	Stockmen's Sleepers.
Excavator	"	
Derrick and Wrecking Cars.		
Pile Driver		"
Ditching		"
Side Dump		"
Rotary Snow Plow		"
Flanger		"

CHAPTER IV.

Particulars of Trains.

Car supervision implies multiplied duties and responsibilities. One duty is that of placing cars to meet business needs with the least haul and inconvenience to the service. Another duty is to see that they reach their destination safely and with due diligence. Another duty, and one of vital importance, is the effective operation of trains as regards speed, load and character. After all is said, it is from the train car service that earnings are derived, and all operating expenses incidentally flow. The train is but an aggregation of cars, and efficiency requires that it should be operated at such rate of speed as to prevent undue wear and tear of equipment and track, consistent with the needs of business.

It is also of the greatest possible importance in the effective and economical operation of railroads that trains should haul the full complement of cars and that these last should have full loads. That this is not possible in every case we all know, but every one connected with the service, nevertheless, strives in every possible way to approximate this ideal. And it is not too much to say that the measure of their success is dependent upon their watchfulness and experience and a due subordination of responsi-

bility. In order to accomplish the end sought and to determine the measure of success attained, more or less detailed information—of a statistical nature—is required. Of the nature and extent of such statistics there will be wide differences of opinion—as wide as the differences in men. One operating officer will require that his personal observations shall be supplemented by carefully collated returns of this nature. Another will make little use of such data except in aggregates, depending more largely upon his orders and watchfulness in enforcing the same, in reference to the particulars of trains. And statistics (it may be said for the thousandth time) are worthless except to those who will give them the time and study required to understand their import and apply the lessons they teach. If men will not do this statistics should not be compiled except as specifically called for: in that way much waste of clerical work and stationery may be avoided.

Thus it seems the extent and usefulness of statistical information—in regard to the operation of trains—depends on the peculiarities of those in charge. But in order to analyze the transportation service of a railroad effectively—on paper at least—full and accurate particulars of its train service, (according to its peculiarities) including mileage, cars hauled, load carried, etc., may be said to be absolutely essential. Such information, however, may be subdivided indefinitely according to the ingenuity of men and the use to be made of it. These subdivisions

I cannot attempt to follow. But primary details (fundamental things—things useful to know) relative to the train service, it is possible to give; and these I summarize herewith, without further remarks, for the benefit of those interested in such matters:

Total number of freight trains run, eastbound.*
(Or northward as the case may be.)
Total number of freight trains run, westbound.
Total number of freight trains run.
Average number of freight trains run daily, eastbound.
Average number of freight trains run daily, westbound.
Average number of freight trains run daily.
Total number of miles run by freight trains, eastbound.
Total number of miles run by freight trains, westbound.
Total number of miles run by freight trains.
Average number of miles run by each freight train, eastbound.
Average number of miles run by each freight train, westbound.
Average number of miles run by each freight train.
Average number of miles run by each freight train daily, eastbound.
Average number of miles run by each freight train daily, westbound.
Average number of miles run by each freight train daily.

(NOTE.—This information should be given for the road as a whole. But as neither the character of a road nor the details of its operations are the same for all its parts, the information in regard to the mileage of freight trains should be given separately for each division of a line, and—if circumstances require it—for each part of a division, such as spurs, mainline, etc. The foregoing also applies in regard to the data specified below. In other words, the information should be given for the railroad as a whole, and for such subdivisions thereof as the exigencies of the property require. It is only by subdividing the service of a railroad in this way that comparisons of the highest value are possible—for the reason that comparisons must be based on similar conditions. Thus, one part of a road may have a light traffic with heavy grades; another heavy traffic with light grades, and so on.)

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*The number may be for the week, month, year, or for any other period: and the same in regard to the averages called for further on.

Proceeding with the recapitulation of Exhibits, they should show:

Total number of loaded freight cars hauled in trains, eastbound.
Total number of loaded freight cars hauled in trains, westbound.
Total number of loaded freight cars hauled in trains.
Total number of empty freight cars hauled in trains, eastbound.
Total number of empty freight cars hauled in trains, westbound.
Total number of empty freight cars hauled in trains.
Total number of all freight cars hauled in trains, eastbound.
Total number of all freight cars hauled in trains, westbound.
Total number of all freight cars hauled in trains.
Average number of loaded freight cars hauled in each train, eastbound.
Average number of loaded freight cars hauled in each train, westbound.
Average number of loaded freight cars hauled in each train.
Average number of empty freight cars hauled in each train, eastbound.
Average number of empty freight cars hauled in each train, westbound.
Average number of empty freight cars hauled in each train.
Average number of all freight cars hauled in each train, eastbound.
Average number of all freight cars hauled in each train, westbound.
Average number of all freight cars hauled in each train.
Average number of loaded freight cars hauled in trains daily, eastbound.
Average number of loaded freight cars hauled in trains daily, westbound.
Average number of loaded freight cars hauled in trains daily.
Average number of empty freight cars hauled in trains daily, eastbound.
Average number of empty freight cars hauled in trains daily, westbound.
Average number of empty freight cars hauled in trains daily.
Average number of all freight cars hauled in trains daily, eastbound.
Average number of all freight cars hauled in trains daily, westbound.
Average number of all freight cars hauled in trains daily.
Total mileage of loaded freight cars, eastbound.
Total mileage of loaded freight cars, westbound.
Total mileage of loaded freight cars.
Total mileage of empty freight cars, eastbound.
Total mileage of empty freight cars, westbound.
Total mileage of empty freight cars.
Total mileage of all freight cars, eastbound.
Total mileage of all freight cars, westbound.
Total mileage of all freight cars.

Total mileage of home freight cars, eastbound.
Total mileage of home freight cars, westbound.
Total mileage of home freight cars.
Total mileage of foreign freight cars, eastbound.
Total mileage of foreign freight cars, westbound.
Total mileage of foreign freight cars.
Average mileage of loaded freight cars per day, eastbound.
Average mileage of loaded freight cars per day, westbound.
Average mileage of loaded freight cars per day.
Average mileage of empty freight cars per day, eastbound.
Average mileage of empty freight cars per day, westbound.
Average mileage of empty freight cars per day.
Average mileage of all freight cars per day, eastbound.
Average mileage of all freight cars per day, westbound.
Average mileage of all freight cars per day.
Average mileage of home freight cars per day, eastbound.
Average mileage of home freight cars per day, westbound.
Average mileage of home freight cars per day.
Average mileage of foreign freight cars per day, eastbound.
Average mileage of foreign freight cars per day, westbound
Average mileage of foreign freight cars per day.
Average mileage of loaded freight cars in each train, eastbound.
Average mileage of loaded freight cars in each train, westbound.
Average mileage of loaded freight cars in each train.
Average mileage of empty freight cars in each train, eastbound.
Average mileage of empty freight cars in each train, westbound.
Average mileage of empty freight cars in each train.
Average mileage of all freight cars in each train, eastbound.
Average mileage of all freight cars in each train, westbound.
Average mileage of all freight cars in each train.
Average mileage of home freight cars in each train, eastbound.
Average mileage of home freight cars in each train, westbound.
Average mileage of home freight cars in each train.
Average mileage of foreign freight cars in each train, eastbound.
Average mileage of foreign freight cars in each train, westbound.
Average mileage of foreign freight cars in each train.
Total number of foreign freight cars in service on the system.
Total number of home freight cars in service of foreign roads.
Total number of miles run by foreign freight cars on the system.
Total number of tons hauled, eastbound.
Total number of tons hauled, westbound.
Total number of tons hauled.
Average tonnage—revenue and non-revenue—hauled in each train, eastbound.
Average tonnage—revenue and non-revenue—hauled in each train, westbound.
Average tonnage—revenue and non-revenue—hauled in each train.
Average revenue tonnage hauled per car, eastbound.
Average revenue tonnage hauled per car, westbound.

Average revenue tonnage hauled per car.
Total distance revenue tonnage was hauled (or—as it is termed in railway phraseology) 'The total number of revenue tons carried one mile', eastbound.
Total number of revenue tons carried one mile, westbound.
Total number of revenue tons carried one mile.

Information in regard to tons carried one mile is necessary to ascertain the average rate per ton per mile: information of value as generally indicating the comparative character of the traffic and the maintenance, or otherwise, of rates; and therefore of importance in comparing different, but generally similar periods.

The great value to a management of data along the lines outlined above, for exercising a minute supervision over operations, in the absence of other scources of information, cannot be overestimated. It affords information for analyzing conditions and making comparisons along generally similar lines that may be made very useful in scrutinizing the movement of cars and trains.

While the foregoing exhibits will greatly aid in watching the movement of freight cars and conditions of service generally, they are by no means complete. Thus, instead of being satisfied with the gross tonnage hauled, managers will require it to be classified as the peculiar traffic of a line suggests. If it is largely made up of ores, separate information will be required for such traffic; and so in regard to coal, live-stock, grain, timber, or other classes of freight that predominate and that must necessarily be shown apart from the balance in order to make exhibits of any value. I have made little attempt except to

show the performance of cars. The management of every road will however require not only information concerning such matters, but what the cars contained—Commodity statements in fact, showing the quantity of different classes of freight carried and the earnings derived therefrom. Such information is not only interesting but exceedingly valuable, especially when compared with corresponding periods indicating, as it will, whether particular kinds of traffic are increasing or falling off: and so I might go on indefinitely, if necessary, pointing out how exhibits of cars and the traffic they carry may be elaborated to meet particular conditions and the varied requirements of different managers.

What I have said in regard to exhibits for traffic and equipment in the schedule given above, refers wholly to Freight. But as a matter of fact the same information is required by a railway company in connection with its Passenger service; and along the same lines, as those I have specified. The differences are largely those of phraseology. However, where there are differences arising from dissimilarity of service, they will suggest wherein the formulas particularized above, will require to be changed or, perhaps, omitted altogether; and so I need not repeat a second time, the list already given in detail.

In reference to the technical classification of trains and, therefore measurably, of cars—I would respectfully refer the reader to the chapter treating of such matters with some considerable particularity, in the volume on the "Supervision

of Locomotives" one of the series of "The Science of Railways." It is too lengthy to be repeated here and too involved to permit of any great abridgment.

In reference to exhibits of every kind, it may be said in conclusion, that their necessity, as a whole or in part, will be governed by the environment of each railroad, its organization, nature of equipment, character and direction of traffic, and other matters peculiar to its management and operations. Each company will require that which seems essential to its effective and economical working, eschewing those exhibits that do not appear to compensate for the clerical labor and other expense that they entail.

CHAPTER V.

Demurrage and Storage Service—Expediting the Loading and Unloading of Cars and Removal of Freight from Platforms and Warehouses.

A feature of great importance connected with the supervision of cars and their effective use, is the necessity there is to enforce reasonable promptness in loading and unloading the same. The cash value of the freight cars of railroads approximates a thousand-millions of dollars. These vehicles—this enormous sum—earn money only when in active use; when the cars have been loaded and are on their way to their destination. For tariffs are based on the haul (and the stipulated number of hours for loading and unloading) and make no provision for the length of time patrons have possession of cars outside of this limit. And because of this, and the dilatoriness of shippers, railroad companies have found it necessary to enforce a demurrage charge in those cases where unreasonable time is taken in loading or unloading.

The object of the demurrage charge or fine, whatever it may be called, is to expedite work at stations. For the charge of one dollar per day for delinquencies in no case covers what the car would earn if in use. For this reason it is

probable that the rules and regulations at present enforced throughout the country in this respect will not be permanent, but that experience and enlightenment on the subject will tend to their betterment in other directions—to the adoption in fact of more equitable rates and greater safeguards.

In the controversies that have arisen between carriers and the Government—abetted by shippers—in regard to demurrage charges, the latter has not insisted that such charges are unreasonable, but has claimed that the enforcement of them through car service associations was in the nature of a pool or trust, and therefore illegal. Whatever the outcome of the controversy may be, it cannot affect the principle that carriers are entitled to a fair rate of compensation for their cars when the users thereof are dilatory in loading or unloading them. The same is true in regard to neglect of merchants and others to remove their property from the warehouses and platforms of railroads.* It cannot be too strongly emphasized that full value is not exacted in the demurrage charge for the use of property. Its enforcement is primarily designed to compel reasonable diligence on the part of the patrons of railroads. Though there is no reason and can be none, why railroads should not have the full earnings value of every car detained beyond

*In connection with this charge, however, the Statutes of some of the States do not permit railroads to make a charge for warehousing—and thus the latter cannot offer such facilities to their patrons without wrong to themselves.

the necessary free time allowed for loading and unloading. Every minute that the facilities of a railroad company are thus tied up full compensation may reasonably be exacted. And that this right will ultimately be enforced seems reasonable.

The rights of railways, and the rights of the public who require cars—and are not always able to get them—demand that the least possible delay should occur in loading and unloading. Every moment beyond such period lessens the available equipment of a railroad and so restricts the supply—and, from the standpoint of the carriers, lessens the just profits of their business. Not only the rights of the carrier, therefore, but those of the public as well are dependent upon the exercise of due diligence on the part of those who use cars. But the interests of the latter, and those of the carrier frequently clash. Shippers may and do find it both convenient and profitable to load and unload cars at their convenience. The matter cannot, therefore, be left to their discretion without injustice to the carrier and the tying up of necessary facilities.

It is mere selfishness on the part of those who use cars to claim exemption from necessary rules and penalties; first, because of injustice to the railroads; and, second, because it deprives others of needed facilities—for a railroad company cannot keep in stock a sufficient supply of cars to answer both the purpose of transportation and storage. But whether the regulations necessary to prevent this are enforced by each

company for itself, or through an agent acting in common for all matters little if the principle is recognized as just. And if there is any law that prevents such enforcement—when exercised along just and equitable grounds—it is unjust and should be repealed. And it is probable that those who seek cover behind such a law do so with the knowledge that if enforced through the individual initiative of railroads, that the strife among carriers for business will open loop holes through which their patrons may hope to escape any charge whatever, either for delay in loading or unloading, or the undue use of platforms and warehouses. There can be no doubt that the adoption of the car service associations grew out of such strife among carriers.*

The propriety and reasonableness of railroads enforcing a charge for delays in loading and unloading cars has been made so apparent by the impartial enforcement of such regulations by the associations in question, that if they are abolished carriers—with the experience and enlightenment

*In reference to the introduction of the car service associations, a writer on the subject says:

"It was early recognized as a necessity that to secure the impartial enforcement of these rules (demurrage and warehouse) their supervision and application would have to be taken from the officers of the railways whose chief duty was to secure traffic, and likewise from those officers whose attention was so centered upon the movement of business in transit that the reasons which led to the detention of cars at destination received but secondary consideration. These causes led to the establishment of independent car service organizations at the more important traffic centers, especially charged with the supervision of the equipment at terminals; and to apply the rules uniformly upon all railroads centering at such points."

The duties assigned these associations were merely supervi-

they have had—will be able, by individual effort, to secure the same results. It would be folly to assume otherwise; that the experience and talent of the officers of railroads are not sufficient to meet such an emergency. It may be assumed therefore that reasonable charges for demurrage and warehousing have come to stay, and that nothing can permanently interfere with their just and active enforcement.

It may be said truly that the rates enforced for demurrage and storage are not based on the arbitrary dictum of the carrier, but in all cases bear just relation to the nature of the traffic and the value of the equipment—though, in no case, as I have stated, is the compensation adequate. Thus in the case of demurrage it is shown by the Interstate Commerce Commission that the earnings of a freight car exceed two dollars per day when in service, while the charge for demurrage enforced by the carrier does not generally exceed one-dollar per day. The loss entailed by the carrier he will suffer so long as he does not charge a rate commensurate with the earning

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sory; to see that there was no discrimination exercised in favor of particular shippers. It was their duty to see that the rates were uniform at particular centers and uniformly enforced. Moreover, they were entrusted with the duty of seeing that no injustice was done to the patrons of any railroad; or, in the event there had been, they were empowered and directed to correct it. The accounting connected with the associations was done by the railroad companies, each company making its reports and collecting the revenues within its own territory.

However, if through any cause the car service associations cease to exist because of Government prohibition or otherwise, the machinery operated by them may be operated—although perhaps not as effectively—directly by the employes of the railroad companies concerned.

capacity of the vehicle, when in use, less its wear and tear. Nor are there any just grounds for the claim that shippers should not be charged more per day for demurrage than railway companies enforce between each other for the use of their cars. In the former case there is no reciprocal accommodation while in the latter railroads use each others cars in common, and so derive a mutual benefit—the intent of the charge between railroads being mainly to prevent the user of a car allowing it to lie idle and so out of service rather than go to the expense of returning it to the owner.

With this explanation I subjoin the accompanying regulations regarding demurrage and warehousing without comment, it being understood that while they are actually in force today at great railway centers, they are inserted here as suggestive rather than being final and conclusive. For it is to be said of these rules, as of all others connected with railroads, that conditions govern; and so these regulations may be considered illustrative merely—as defining the rights of railroads under certain conditions—rather than authoritative.

All freight in carloads shall be subject to car service charges, and all freight held in railroad warehouses or on platforms shall be subject to storage charges, in accordance with the following regulations:

Forty-eight hours will be allowed for the loading or unloading of cars.

When the same car is re-loaded, ninety-six

hours will be allowed for unloading and reloading.

Forty-eight hours free time will be allowed on storage tracks of railroads bringing cars into the territory covered by these rules for placing of reconsignment or switching orders, but this will not apply when cars are moved from one delivery track to another for accommodation of consignees.

Time will be computed from first 6 P. M. after arrival, when cars are held for orders, and from first 6 P. M. after placing on delivery tracks when held for loading or unloading, except as hereinafter provided.

(NOTE.—The rules for computing time vary somewhat in different localities. Thus in one section the charge is from 12 o'clock noon on cars arriving during the forenoon; and from 7 the following day if they arrive after 12 o'clock noon.)

In computing time, Sundays and the following holidays are exempted: New Year's Day, Lincoln's Birthday, Washington's Birthday, Decoration Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day, and all general and municipal election days. When a legal holiday falls on Sunday, the following Monday will be exempted.

Cars containing grain in bulk will be allowed forty-eight hours free time for disposition from 12 o'clock noon of the day of arrival, provided the grain is subject to inspection and is inspected before 10 o'clock A. M. of that day. If inspection is made after 10 A. M., car service will begin forty-eight hours from 12 o'clock noon of the following day.

Grain ordered to elevators located on tracks of the railroads bringing the cars into the territory covered by these rules will be held ten days free of car service from first 6 P. M. after orders are filed with local agent.

Grain from connecting lines consigned or ordered to elevators, will be held 10 days free of car service from 6 P. M. of date of receipt by the railroad delivering to elevator.

Grain from connecting lines held for disposition will be allowed forty-eight hours free time from first 6 P. M. after receipt of cars by secondary line for the placing of final billing directions with billing agent.

Grain loaded at elevators will be allowed forty-eight hours free time from first 6 P. M. after cars are loaded, for placing billing directions with billing agent.

(NOTE.—In one locality no charge is made on grain for delivery at public elevators; but when it is held out of elevators by order of shipper or consignee, it is subject to the same rules as other freight.)

Cars loaded with baled hay and straw, will be allowed forty-eight hours free time from first 7 A. M. after being placed on track in delivery yard, for the placing of orders. Forty-eight hours additional free time will be allowed for unloading, computing time from first 6 P. M. after order is filed at local office.

Cars loaded with coal and coke may be held on storage tracks of the railroads bringing cars into the territory covered by these rules for a period of seven (7) days free time for disposition.

(NOTE:—Seven days free time is allowed for disposition of coal and coke to insure a supply of fuel at all times in the large cities and manufacturing centers, and to provide for irregularities in transit incident to low class freight moving long distances. The rule is so worded that seven days is the maximum time as roads that originate coal at short distances do not find it advisable to allow the full seven days. In another place cars loaded with coal and coke may be held on storage tracks seventy-two hours; and afterwards forty-eight hours on unloading tracks before demurrage is assessed; the same rule applies to bulk salt, lime, ore, and fluxing materials.)

Cars loaded with freight in bond will be allowed forty-eight hours free time for unloading after release by United States Customs officer.

Cars containing freight held for billing, milling, shelling, cleaning, sacking, or for change of load by owner or his agent, will be subject to car service if held in excess of forty-eight hours, and if such shipments are transferred to other cars, the charge will continue on cars to which transfer is made, and must be collected or billed as cash advances.

Cars billed to order, when held for bills of lading or instructions are subject to car service charges at the expiration of forty-eight hours from arrival, and car service must be collected before delivery of the freight.

When cars are held for payment of freight charges, car service will be assessed at the expiration of forty-eight hours from arrival.

Cars must not be held back from, or outside of, place to which they are consigned, for the purpose of evading car service charges. When cars are held by reason of consignee not being ready to receive them, the agent shall include such cars in his car service report, and demurrage shall be charged thereon as provided in the rules.

When any consignee is unable to receive freight or to unload cars, and, for that reason, the delivering line refuses to receive cars from connecting lines consigned to such consignee, the agent of such connecting line or lines holding cars for such consignee shall immediately notify the consignor or consignee of the cars so held, and of the inability to forward or deliver the same, and shall charge car service, if delivery cannot be effected within free time allowed for reconsignment.

At the expiration of free time (i. e., the time allowed the patron by a company to load or unload a car) a charge of one dollar per car per day,

or fraction thereof, must be collected for detention of all cars held for loading or unloading, or subject to order of consignors, consignees or their agents.

When both cars and tracks on which cars are held are owned by the same party, not a railroad company, no charge will be made; but when private cars are detained on tracks of other firms or individuals, or on tracks belonging to or operated by railroads within the territory covered by these rules and subscribing thereto, the established charge shall apply.

Storage will be charged when freight unloaded at railroad warehouses or platforms is not removed by consignee within forty-eight hours from first 6 P. M. after cars are unloaded.

Freight in cars placed on delivery tracks and subsequently sent to railroad warehouses or platforms, is subject to car service rules while on delivery tracks, and storage rules after cars are unloaded at warehouses or platforms.

Freight upon which the free time has expired while on delivery track, and subsequently sent to warehouses or platforms, shall be subject to storage charge immediately when unloaded at warehouses or platforms.

Freight received for shipment at railroad warehouses or platforms will be charged storage, if held more than forty-eight hours from first 6 P. M. after receipt, to complete a shipment or for forwarding directions.

When freight is held in railroad warehouses or on platforms in excess of free time, charge will be made for storage at the rate of five cents per ton per day.

Any fractional part of two thousand pounds

will be computed as a ton, and any fractional part of twenty-four hours will be computed as a day.

A minimum storage charge of five cents per day will be made on each consignment of freight of less than two thousand pounds.

(NOTE.—Storage rules, it may be said, are necessary to the fair and impartial application of the car service rules; also, to prevent congestion at freight houses, by enforcing prompt removal of freight.)

Cars containing freight to be delivered from track warehouses or platforms, shall be switched immediately on arrival, or as soon thereafter as the usual routine of yard work will permit.

The delivery of cars consigned, or ordered, to private tracks or designated public delivery tracks, shall be considered to have been effected when such cars have been placed on the tracks designated, or, if such tracks be full, when the road offering the cars would have made delivery had the condition of such tracks permitted.

Agents must collect car service charges regardless of the state of the weather, unless exemption is authorized by the official having the disposition of such matters.

Live stock and material belonging to the railroad shall be exempt from car service rules, and shall not be included in reports.

Car service (demurrage) and storage charges must be collected in the same manner and with the same regularity and promptness as transportation or switching charges.

Freight upon which car service or storage charges have accrued shall not be removed from the railroad company's premises until the charges thereon have been paid. When consignors or consignees refuse to pay, agent will hold freight

until payment is made and assess regular charges until the freight is removed; or, at his option, he may send freight to a public warehouse or yard, where the same must be held subject to storage charges, in addition to all other charges.

When cars are detained on private tracks beyond the free time for loading or unloading, and payment of car service charges is refused, agents must, after giving five days' notice, decline to switch cars to private tracks of such parties; and thereafter tender freight from public team tracks, and collect freight charges before delivery, until satisfactory guarantee is given that the car service rules will be complied with; the official in charge of such matters must be promptly advised of such action.

When grain is held for an elevator in excess of free time, car service charges must be collected from the elevator.

Car service charges due for detention of cars ordered to connecting lines within the switching limits of the territory covered by these rules shall be collected by the agent of the forwarding line. When cars are ordered or destined to points beyond switching limits, the agent, at his option, can collect from shipper or consignee, or let the charges follow as advances.

All claims for relief from, or refund of charges collected under these rules, and all other claims shall be referred with full explanations to the official in charge of demurrage and storage service.

Agents of railroads must make and send to the official in charge of demurrage and storage a record of all freight subject to car service and storage rules, on such forms and in such manner

as may from time to time be prescribed, and give such other information in relation to car service and storage as may be required.

The foregoing rules are complete in themselves. Usages, however, differ according to conditions and measures. Thus, at one point two cents per cwt. will be charged for storage on potatoes, apples and other similar products for the first week, and three-fourths of a cent for each succeeding week or fraction thereof; on canned goods, sugar, and other specified articles, the rate will be one and one-half cents per cwt. for the first week, and so on. Another group of railways will charge one cent per cwt. on all classes of freight with a minimum of ten cents for any one consignment, and a maximum therefor of one dollar per day. Still another group will—because of lack of facilities—make it a rule to deliver all packages of freight at a public warehouse at the expiration of free time allowed consignees. In all cases however the charge is along well considered lines and is both reasonable and proper.

In the enforcement of the regulations governing demurrage and storage charges, careful provision is made to prevent injustice being done to the patrons of railways, such as a charge for detentions for which they are not responsible. Reasonable concessions are also made in regard to time allowed for loading and unloading particular classes of freight. In every case the carrier is quick to accord relief where an unjust charge has been made.

Prior to the arbitrary enforcement of demurrage and storage charges an intolerable misuse of freight cars prevailed. Consignees, with no other place of business than a desk, perhaps, would receive freight in car-lots and upon its arrival, failing to find a customer, would hold the cars on the track until they were able to dispose of the freight. Or, after exhausting the patience of one carrier, would, upon payment of a small switching charge, move the car to the tracks of another company and so repeat the delinquency. It often fell out in the case of delays, that the contents of the car would so depreciate in value that the railroads could not realize, by enforced sales, sufficient to pay their just charges. Buyers, emulous of gain, would order large supplies in order to take advantage of a favorable market and, on arrival of the goods, owing to lack of storage facilities, would leave the freight on the tracks, or in the warehouses of the company. A very large percentage of the freight received by carriers at large centers, is deliverable in car lots upon the tracks of other companies. Prior to the enforcement of fixed regulations governing demurrage a serious condition confronted the owners of cars passing to connecting lines. Thus, a car owned by the Erie would be switched to the track of another road having a corresponding terminal, with the result that there being no arbitrary rule in regard to the return of the car, it would fall out that the Erie would be, little by little, divested in this way of its rolling stock

and so unable to afford accommodations to its patrons.

In conclusion it may be said in regard to the enforcement of arbitrary regulations governing demurrage, that in 1888, prior to such enforcement, the average detention of a car by patrons, was five days. In 1903, after fifteen years of definite enforcement of such rules, the average was reduced to 1.69 days per car. This gain—on the basis of the freight car equipment of railroads—was equal to an addition of 315,923 cars to the equipment of American railways, and to that extent afforded those who use freight cars that additional accommodation over old conditions. From whatever point viewed the due enforcement of demurrage charges may be said to be a public and private necessity; it lessens waste of needed facilities and in a measure protects the just rights of the carrier.

CHAPTER VI.

FORMS USED IN SUPERVISING AND ADMINISTERING THE DEMURRAGE AND STORAGE SERVICE.

NOTE.—The accompanying blanks fully explain their purpose and how compiled. They are adaptations of those found to be of practical utility and are available without any change whatever for use by Car Service associations, or directly, by a railroad company, if it desires to enforce its demurrage and storage charges through its own officers and employes.

Form No.

D-S. 1. STATION RECORD OF CARS SUBJECT TO CAR SERVICE.

D-S. 2. AGENT'S DAILY REPORT OF CARS RECEIVED, ORDERED, PLACED AND RELEASED.

D-S. 3. NOTICE TO AGENT OF ERRORS AND OMISSIONS IN HIS DAILY CAR SERVICE REPORT.

D-S. 4. HEADQUARTERS RECORD OF CAR SERVICE.

D-S. 5. AGENT'S WEEKLY STATEMENT OF CAR SERVICE CHARGES COLLECTED.

D-S. 6. AGENT'S MONTHLY STATEMENT OF UNCOLLECTED CAR SERVICE CHARGES.

D-S. 7. MONTHLY STATEMENT FOR THE RAILROAD COMPANY OF CAR SERVICE CHARGES CHARGEABLE AGAINST ITS AGENTS.

D-S. 8. AUTHORITY (IN DUPLICATE) FOR AGENT TO REFUND CAR SERVICE CHARGES.

D-S. 9. AUTHORITY TO CANCEL CAR SERVICE CHARGES.

D-S. 10. AGENT'S DAILY REPORT OF CHARGES ASSESSED FOR STORAGE OF FREIGHT.

D-S. 11. AGENT'S WEEKLY STATEMENT OF STORAGE CHARGES COLLECTED.

D-S. 12. AGENT'S MONTHLY STATEMENT OF UNCOLLECTED STORAGE CHARGES.

D-S. 13. MONTHLY STATEMENT FOR THE RAILROAD COMPANY OF STORAGE CHARGES CHARGEABLE TO ITS AGENTS.

STATION RECORD OF CARS SUBJECT TO CAR SERVICE. D-S-1.

NOTE.—This book is used by agent for purpose of recording the movement of cars at stations, subject to Car Service rules. It is written up from day to day as the service progresses.

CAR		CAR RECEIVED			CAR ORDERED		CAR PLACED		CAR RELEASED		Car Service Charge	Location of Car	Contents of Car	Consignee or Consignor
No.	Initial	From	Date	Time	Date	Time	Date	Time	Date	Time				

D-S-2.

AGENT'S DAILY REPORT OF CARS RECEIVED, ORDERED, PLACED AND RELEASED.

To_____ _____ Station_____ R. R.

_____

_____

Dear Sir: Below please find statement for the 24 hours ending 6 P. M., _____ 19___

_____ Agent.

_____

NOTE.—This report must be made daily (except Sundays). Monday's return will include Sunday's business. It must be forwarded in time to reach the proper official not later than 48 hours after the period for which it is made.

Empty cars placed for loading should be designated in the 'Received' column thus: "X." In reporting cars released agent must furnish complete record of each car, date and time received, date and time ordered, date and time placed, with contents, consignees and amount of car service.

There shauld be no charge made for the days cars are detained by railroad company.

CAR		RECEIVED			ORDERED		Detention by R. R. Co.	PLACED		RELEASED		Public or Private Track	Contents	CONSIGNEE OR CONSIGNOR	Car Serv. Charge	
Number	Initial	From	Date	Time	Date	Time		Date	Time	Date	Time					

D-S-3.

NOTICE TO AGENT OF ERRORS AND OMISSIONS IN HIS DAILY CAR SERVICE REPORT.

_____ 19___

To _____ Agent, _____ Railroad Co.

At _____ Station.

On receipt of this form, the agent will sign his name thereto and return the original to the maker (retaining the duplicate for file) provided charges as corrected are in accordance with the record. If not correct, the original and duplicate should be returned with explanation.

_____

_____

YOUR DAILY CAR SERVICE REPORT FOR CARS RELEASED 6 P. M. _____ 19___ reads as follows:

CAR No.	CAR Initial	RECEIVED	ORDERED	PLACED	RELEASD	Car Ser. Charge	CONTNTS	CONSIGNEE

IN CONFORMITY WITH THE CAR RECORD, THE CHARGE AGAINST YOUR STATION HAS BEEN CHANGED TO READ AS FOLLOWS:

HEADQUARTERS RECORD OF CAR SERVICE FOR STATION NAMED.

D-S-4.

For _____ R. R. _____ Station. _____ Agent. _____ 19___

CAR		RECEIVED		ORDERED		PLACED		REL'SD		Con-tents	Con-signee	DEBITS	CREDITS			Car. Serv. refunds	CLAIM	
Number	Initial	Date	Tim	Date	Tim	Date	Tim	Date	Tim			Car Ser. Charge	Car Ser. Collected.	Car Ser. Cancelled	Date		No.	Date

D-S-5.

AGENT'S WEEKLY STATEMENT OF CAR SERVICE CHARGES COLLECTED.

_____Station, _____19___

To _____

_____

Dear Sir:

The following is a statement of car service charges collected by me for the week ending_____19___ for_____R. R. Co.

_____Agent.

Collections should not be included until final release of car.

NOTE.—This return is necessary in writing up record form 4 at Headquarters.

CAR NUMBER	INITIAL	DATE RELEASED	AMOUNT COLLECTED	FROM WHOM COLLECTED

D-S-6.

AGENT'S MONTHLY STATEMENT OF UNCOLLECTED CAR SERVICE CHARGES.

To_____ _____ 19___

Dear Sir:—

Below please find statement of all uncollected car service charges due_____ R. R. Co.

at_____ Station, for the month of_____ 19___

_____
Agent.

_____
Station.

(NOTE.—This report must be made immediately after close of month.)

CAR NO.	INITIAL	WHEN RECEIVED		WHEN PLACED		WHEN RELEASED		AMOUNT OF CAR SERVICE CHARGE	FROM WHOM DUE	WHY NOT COLLECTED
		Date	Hour	Date	Hour	Date	Hour			

D.S-7.

MONTHLY STATEMENT TO THE RAILROAD COMPANY OF CAR SERVICE CHARGES CHARGEABLE AGAINST ITS AGENT.

To_____ _____ 19___

Accounting officer of

_____ R. R. Co.

Dear Sir:—

The following is a statement of CAR SERVICE CHARGES at _____ Station, for month of _____ 19___, which please charge to _____ Agent.

(NOTE.—One copy of this is sent to the accounting officer of the road; one copy to the agent interested; one copy is filed in the office (by the official in charge) where the statement is compiled).

CAR NO.	INITIAL	DATE REL'SD		CAR SERVICE		CAR NO.	INITIAL	DATE REL'SD		CAR SERVICE	

D-S-8.

AUTHORITY (IN DUPLICATE) FOR AGENT TO REFUND CAR SERVICE CHARGES.

ORIGINAL.

_____ 19___

To_____

Agent_____R. R. Co. Claim No._____

_____Station.

DEAR SIR:—

You will please refund to_____ the following amounts collected by you account of car service on cars enumerated below. Please be particular to take receipt in duplicate (on forms herewith), allowing no alteration or erasure to be made thereon. When settlement has been effected, send original receipt to the accounting officer of your company and the duplicate to this office, together with all papers connected with the claim.

_____

_____

CAR		CAR SERVICE	
Number	Initial	Amount Collected	Amount to be Refunded

RECEIPT.

_____Station_____19___

Received of_____Agent, the sum of

_____Dollars, ($_____)

in payment of amount referred to in the above statement, and in full settlement of claims for the cars mentioned.

_____

D-S-9.

AUTHORITY TO CANCEL CAR SERVICE CHARGES.

_____ 19___

To_____ Agent. Claim No._____

of_____ R. R. Co._____ Station.

Dear Sir:

You are hereby authorized and directed to cancel car service charges assessed against the following cars account of

_____

NOTE.—You will send this sheet to the accounting officer of your company as your authority for cancelling the charges enumerated below.

Yours truly

_____

_____

Car Number	Initials	Amount Assessed	Amount to be cancel'd	Date Released	REMARKS

.....

Claim No._____

_____ R. R._____ Station._____ 19___

To_____

_____

Dear Sir: In accordance with the authority contained in your order of _____ 19___, I have this day canceled $_____ car service charges mentioned therein, and herewith return to you all papers connected with the claim.

_____ Agent.

NOTE.—Agent will fill up this form and detach and forward as indicated.

D-S-10.

AGENT'S DAILY REPORT OF CHARGES ASSESSED FOR STORAGE OF FREIGHT.

To_____ Sheet No._____

_____ _____Station,_____Railroad.

Dear Sir—Below please find statement of charges assessed for storage of shipments forwarded and delivered during 24 hours ending_____19___ _____19___, _____Agent.

[NOTE.—All shipments delivered or forwarded on which storage charges have accrued must be reported on this form. The report must be made daily (Sundays and holidays excepted as provided by the rules) and forwarded promptly to the official in charge. Shipments delivered on Sundays and holidays will be included in report for previous day. Agents will use only columns 2 to 9, inclusive (headed "Station Record"). In reporting freight delivered, date unloaded and date delivered will be shown in columns 5 and 6; for freight forwarded, date freight is received and also date final billing directions are received will be entered in columns 5 and 6. For reporting shipments forwarded, the way-bill number should be entered in "Pro." column 4, designating such freight by letters "O. F." in column 1. Letters "C. L." should be inserted in column 15 when carload freight is reported. Supplementary reports for all shipments omitted from regular reports should be made. The records as shown on this report will be checked at headquarters by the official in charge of Car Service matters. If charges are not in accordance with the rules, agents will receive notice of correction. A copy of this report should be kept on file in the office of agent making the same. Sheets must be numbered consecutively, beginning with No. 1, the first of each month.]

STATION RECORD									HEADQUARTERS RECORD					
1	2		3	4	5	6	7	8	9	10	11	12	13	14	15
	CAR		Storage Pro.	R. R. Pro.	Date Unloaded or Received for Shipment	Date Del. or Receipt of Forwarding Instructions	CONSIGNEE OR CONSIGNOR	WEIGHT	Storage Charge	Collections	Date	CLAIM			Car Load
	No.	Initial										Relief	Refund	Number	

D-S-11.

AGENT'S WEEKLY STATEMENT OF STORAGE CHARGES COLLECTED.

To_____, _____ 19___

Dear Sir:

Below please find report of storage charges collected at _____ Station,

_____ Railroad, for week ending _____ 19___

(NOTE.—This report must be closed at 6 P. M. on the 7th, 14th, 21st and last day of each month, and forwarded by agent promptly to the official in charge at Headquarters.)

_____ Agent.

_____ Station.

CAR NUMBER	INITIAL	RAILROAD PRO.	CAR SERVICE PRO.	DATE FREIGHT DELIVERED OR FORWARDED		AMOUNT COLLECTED		FROM WHOM COLLECTED

D-S-12.

AGENT'S MONTHLY STATEMENT OF UNCOLLECTED STORAGE CHARGES.

_____ Station _____ 19____

To _____

_____

Dear Sir:—Below please find statement of all uncollected storage charges due _____

R. R. Co. at _____ Station on the last day of _____ 19____.

(NOTE.—This report must include all unpaid storage charges whether same have been previously reported or not. It must be forwarded promptly at the close of each month to the official in charge).

_____, Agent.

CAR NUMBER	INITIAL	RAILROAD PRO.	CAR SERVICE PRO.	DATE FREIGHT DELIVERED OR FORWARDED		AMOUNT DUE		FROM WHOM DUE	WHY NOT COLLECTED

D-S-13.

MONTHLY STATEMENT TO THE RAILROAD COMPANY OF STORAGE CHARGES CHARGEABLE TO ITS AGENT.

To_____ _____ 19____

Accounting Officer of the_____ R. R. Co.

DEAR SIR:

The following is Statement of STORAGE CHARGES at_____ Station which please charge to_____ Agent of_____ R. R. Co. for month of_____ 19____

W-B. or PRO. NUMBER	WEIGHT	DATE RELEASED	AMOUNT CHARGED	W-B. or PRO. NUMBER	WEIGHT	DATE RELEASED	AMOUNT CHARGED

NOTE.—This return is made in triplicate by the official in charge of storage matters: one copy he retains; one copy he sends to the agent interested; the other copy he sends to the accounting officer of the railroad company so that the amount may be audited and charged to the agent.

CHAPTER VII.

Joint Use of Cars by Railroads and the Supervisory Accounting Occasioned Thereby.

The wide use of cars in common by the railroads of America renders the duty of watching over them one requiring systematic method and painstaking care. In the early days of railways inter-road freight was rebilled and, in the main, reloaded at the point where it was to leave one railroad for transportation on another. Now, much of this freight is billed through, the car in which it was originally loaded being transferred to the connecting road, and so on to the final destination.

And wherever there is a railroad of standard gauge connecting with other roads, there we will find this community of interest, this neighborly exchange of facilities, this avoidance of delays.

In America no distance is too great, no locality too remote, it may be said, not to be visited, more or less often, by the cars of railroads at the farthest extremity of the continent. Because of this wise provision it is as if one company owned all the equipment and operated it in common for the general good. This great convenience and saving in time the railroad companies afford the business world: and thus they are breaking down the barriers that have existed between the dif-

ferent countries, and with them the national enmities and prejudices that have prevailed in the past. For these cease to have force when those who possess them discover the advantages that attend free international intercourse; and the fact that trade flows back and forth across our National borders with unimpeded freedom—so far as carriers are concerned—is abundant evidence that the inhabitants of the countries, to the north and south, find advantage as do our own people in such interchange of commodities. And from a merely sentimental point, what American's heart has not beat the faster when, in some far-off place, his eyes have suddenly been gladdened with the sight of a railway car that comes from his own neighborhood and that is as familiar to him as his doorpost!

Thus the cars of standard roads intermix, traversing every part of the continent—and so far as the observer can see—seemingly lost to the supervision of their owner. But as a matter of fact, he, through his officers never for a moment loses sight of his property, nor ceases to jealously watch its whereabouts, nor, finally, fails to enforce compensation for its use. Not only that, but he insists upon its being returned within a reasonable time. The enforcement of this necessary procedure he entrusts to men experienced in such matters, and it is their duty to see that, when a car has performed its allotted burden, it is sent home. Another duty, and analogous to this, that the owner of cars performs, is that of keeping a watchful eye over the cars

of other companies that he may, for the moment, have on his line. These he requires shall be sent home with all possible expedition, that the charge for their use and the fines inflicted for undue detentions, may not be burdensome or out of proportion to the value his company has received from the use of the cars. In this duty, as in that of watching over the cars of his company on other roads, the owner enlists the co-operative effort of all his officers and employes who are in any way charged with the movement of cars.

Two phases of the subject present themselves in connection with the use of cars by railroads. One the handling or distribution thereof as required by the needs of business; the other, the compiling of such accounts and returns as may be necessary to fix the balances that railway companies owe each other for the joint use of their respective cars.

On some roads these duties are merged under one officer; but as railroads have increased their mileage and the number of their cars, some of them have divided the work, placing the first named under an officer more or less commonly known as the Car Service Agent; and the second under an official we may call the Auditor of Car Accounts. This division of work has been made for the reason that the distribution of cars (placing them where needed) is an operating or executive function requiring that the responsible official shall keep himself actively informed of the business needs of the road by being in touch with the forces responsible for its traffic and the

expeditious and economical handling of the equipment in the discharge of business. On the other hand, the keeping of the accounts and records necessary to determine balances due to and from railroads is of a clerical nature, like all other matters connected with the Accounting Department. It is the duty of the official in charge of this work to see that accurate account is kept of the cars interchanged by railroads and that due compensation is rendered therefor.

It is because of the dissimilarity of the duties and responsibilities connected with the two classes of work that the division of the work referred to above has been made. For it has been found by practical experience that an officer especially qualified to attend to the handling and distribution of cars is, through temperament and concentration of his mind in other directions, oftentimes not as well qualified to look after the accounts (bookkeeping) as an officer schooled in such matters and giving the subject undivided attention. However, wherever these widely different qualities or capacities of mind and energy are possessed by one man, the division of the work as pointed out, will not be so apparent.

The duties of the Car Service Agent, I have endeavored to describe with some particularity elsewhere. Those that are or may be assigned to the Auditor of Car Accounts, as above explained, with the forms necessary to a proper discharge of the work are described further on. One of his duties, and perhaps the most important, relates to the keeping of the records

and accounts of the amount his company owes to other companies for the use of their cars, and vice versa. These I take up first. And it may be said in this connection that there are two bases of settlement for the joint use of cars by railroads. That based on the mileage they make on the road using them; and that based on what is known as the per diem system—the latter an agreement to pay a stipulated amount for each car each day that it is in the possession of the using company. The first method has been largely supplanted in America by the second. This because under the first named, due responsibility cannot be fixed nor active effort be assured, on the part of the using company, that it will return the car at the earliest practicable moment. Of the mileage system, too, a belief or suspicion sometimes arises—not well founded perhaps—as to whether the using company is always careful to report the full mileage made; also doubt as to whether the system of accounts necessary to secure full returns is as comprehensive and as rigidly enforced as it should be. Moreover as a company under that method of compensation, does not have to pay for the use of a car except on the basis of mileage—i. e., when it is in active use—it follows that there is no particular urgency on the part of the using company to return it to the owner when idle; and when local business presses foreign cars are, as a matter of convenience and excusable thrift, allowed to lie on the sidings awaiting a more convenient season to be returned to the owner. The

mileage system, while admirable in theory, and also in practice in many particulars, does not, it is apparent, adequately protect the owner of cars in use by other companies. And it is no justification of the system to say that all companies being equally lax, equally neglectful in handling the cars of other companies, the owner is protected because of the uniformity of the practice—in other words he being as negligent in handling the cars of other roads as they are in handling his, the loss is in that way made good.*

In introducing the Per Diem system covering the joint use of cars, the rate agreed upon, (of 20c per day to be paid to the owner of the car,) it is unnecessary to say was not entirely satisfactory. Each company was governed in the matter wholly, of course, by self interest—by its environment. Some claimed the rate was too low, others that it was too high. And it is, perhaps, not too much to say that no rate that ever will be agreed upon will be entirely satisfactory. Some will think it is excessive, others the reverse. And the same may be said in regard to the rates—some of which are particularized herein—for the use of trains, locomotives, tracks, fines for holding cars, and so on. And because of this they are not given herein as authoritative or likely to be permanent. They are intended to be

* More particular reference to the mileage basis as a method of settlement between railroads for the joint use of cars, is referred to in another volume of the "Science of Railways." While other methods that may be enforced with greater surety will be adopted more or less generally as a substitute for the mileage basis, it will, nevertheless, always be in some favor.

illustrative merely; to approximately represent what carriers, under certain normal conditions, may agree among themselves to pay for certain privileges, rights and usages.

This is also true, too, of any rates that may be agreed upon between companies in regard to compensation for handling engines, trains, crews, and loaded and empty cars, belonging to other companies. Like all other things they are adjusted to meet conditions; to conform to the law of demand and supply. Such being the case it will be understood, therefore, that wherever specific figures are used herein, they are intended to be illustrative rather than fundamental.

A necessary feature of great interest in connection with the supervision of cars, that I may mention before proceeding, is the preservation of the history of each car; the time it was built, when destroyed, when replaced, and other particulars regarding its character. The accompanying form has been found to answer the purpose of a record. It may be called an

HISTORICAL RECORD OF CARS.

CAR NO. 1	Date Car Was Built	Where Built			INSIDE DIMENSIONS			Capacity Tons	CHANGED		Date	
					Length	Width	Height		From	To		
	Date Broken Up	Where Destroyed	Date Rebuilt	Where Rebuilt								

This record contains the history of every car owned by a company. It is valuable for purpose of reference, and the officer who has it in charge is notified, without delay, both of the building and destruction of cars. And naturally it is to him that the superintendent of cars will go when he wishes to number a car or group of cars; for only the keeper of the record has knowledge of the vacant numbers available for such use.

The accounting connected with the joint use of cars, because of the wide territory they traverse and the great number of vehicles thus employed, requires minute and comprehensive oversight. Methods must be such as to follow the car day by day to see that the amount justly due the owner is made a matter of record and finally accounted for. The report (monthly settlement account) of a company for such use of cars is, for the moment accepted, as correct and the balance between the two roads concerned is struck on that basis. But afterwards the statement is carefully scrutinized, item by item, and in the event of any error or omission, the company rendering the report is duly notified and requested to add to or deduct from its next report the amount of the mistake. The reports thus passed between companies, with other exchanges concerning details, afford all the information necessary to a proper supervision of the work from day to day, and finally a correct audit of the accounts at the end of the month. When the balance for or against a company is ascertained, it is certified to the proper official for final set-

tlement and thus a balance is struck and the creditor company draws, without notice, for the balance due it. In respect of this it does not matter whether the accounts are arrived at on a mileage or per diem basis. Whatever amount a company owes the other, including penalties and rebates (called reclaims), is included in the monthly statement, and forms a part of the balance drawn for.

The work of compiling and auditing these returns falls to the Auditor of Car Accounts and it is he who certifies the balances for settlement between the companies. And as the method of settlement in America, for the joint use of cars, will be based more or less generally on the per diem system, particulars concerning such method are at once interesting and of common use to all having anything to do with railway equipment or accounts. The details connected with the system may properly be prefaced by explaining the few and simple definitions that have been agreed upon in the technical nomenclature of the system. Thus, in returns and correspondence in reference to the joint use of cars the term

Home Car—Is everywhere understood to mean a car on the road to which it belongs.
Foreign Car—A car on a road to which it does not belong.
Private Car—A car having other than railroad ownership.
Home—A location where a car is in the hands of its owner.
Home Road—The road which owns a car, or upon which the home of a private car is located.
Home Route—The line of intermediate roads over which a foreign car was moved from home.
Home Junction—A junction with the home road.
Home Route Junction—A junction on the home route.

Switching Service—The movement of a car (by another company) that is to be loaded or unloaded; also the movement of a car between railroads—all within designated switching limits—for which a charge is made against the road performing the service—such road not participating in the earnings that accrue from transporting the freight, but deriving a revenue from the switching service it performs.

The rates enforced in connection with the per diem system, like all regulations regarding the interchange of equipment and traffic between railroads, will be changed, as already pointed out, from time to time—or abrogated entirely—according to the interest of the companies interested. But the rules and regulations—or formulas—governing the business, like all such regulations, can never vary greatly. Indeed, they must of necessity be substantially the same. For that reason the methods devised by the railroad companies interested, governing the enforcement of the per diem system, given below, will always be interesting and, in the main, accurate.

The following are the provisions in question, omitting the rates which, as we know, will ever be a changeable quantity:

REGULATIONS GOVERNING SETTLEMENTS BETWEEN RAILWAY COMPANIES, FOR THE JOINT USE OF FREIGHT CARS, ON THE PER DIEM BASIS.

1. The rate for the use of freight cars shall be — cents per car per day, which shall be paid for every calendar day, and shall be known as the per diem rate.

2. Days shall be reckoned by subtracting the date of receipt from the date of delivery. The day of receipt shall be disregarded, and payment made for day of delivery.

A road receiving and delivering a car on the same date shall not pay the per diem for that day.

3. A road shall have the right to demand the return of its car after it has been twenty days consecutively on any road. If the car is held by that road more than ten days after the date of such notice—on the prescribed form—making thirty days in all, thereafter a penalty rate of — cents per day in addition to the per diem rate shall be paid by such road for the further use of that car.

4. All railroads, including ferry lines, shall be responsible to the car owner for amounts accruing for the use of a car at the established rates, whether such car is in road service or switching service, until the car has been delivered to the owner or to another road.

5. An arbitrary amount (previously agreed upon) for each car in switching service—held beyond a stipulated time—may be "reclaimed" (exacted) by the switching line, from the road for which the service was performed. The amount is based upon the average number of days actually required to perform the service, as agreed upon beforehand by the roads directly interested, for the territory in question. (See definition of "Switching Service.")

6. Cars shall be considered as having been

delivered to a connecting railroad when placed upon the track agreed upon and designated as the interchange track for such deliveries—accompanied or preceded by proper data for forwarding—and accepted by the car inspector of the receiving road. Unless otherwise arranged between the roads concerned, the receiving road shall be responsible for the cars, contents and per diem, after receipt of the proper data for forwarding and until they have been accepted by its inspector or returned to the delivering road.

7. In case a road delivers an empty foreign car without the consent of the owner to a road which does not pay per diem—or if a road permits the loading or re-consigning of a foreign car without the consent of the owner to such a road —it shall be responsible to the owner for the payment of an amount equal to the per diem accruing on the car while on such road.

8. When home route cards have been requested under the master car builders' rules, the per diem shall cease from the date of request to owner.

When a car has been destroyed and reported under the master car builders' rules the per diem shall cease from the date of notice to owner.

9. When a car is detained awaiting receipt of repair material from its owner, the per diem shall cease from the date the necessary material is ordered from the owner until the date when it is received by the road holding the car.

10. Interchange reports shall close at midnight and shall include all cars exchanged upon

the date named unless otherwise noted thereon. The report must be sent to the car record office on each day whether cars are exchanged or not.

In cases where there are different standards of time at junction points the time of the more easterly reckoning shall be used.

The interchange reports to the car record office from junction points must be signed by the agents or other authorized representatives of both roads on the prescribed form, the receipt of cars delivered being thereby acknowledged. Car service rule five (given above) governs the delivery of cars. The time of delivery of cars upon interchange tracks of connecting lines shall, prima facie, be the time given by the delivering road.

11. The junction report for each day will be made to car owners on the prescribed form (C. A. 4) as promptly as possible after the receipt of the interchange report for that day.

12. Within 30 days after the end of each calendar month, car owners shall be furnished with a per diem report for that month, on the prescribed form, showing the number of days each car has been in service upon the road making the report.

13. The settlement of amounts accruing for the use of cars and "reclaims," (rebates) under rule five, shall be made monthly without regard to reclaims pending under rules 13, 14, and 15.

14. When reclaims are made for allowances, under rules 14 and 15, or on account of special conditions they must be made by the designated transportation officer of the road which pays the

per diem to the designated transportation officer of the road from which the allowance is reclaimed.

15. A road failing to receive promptly from a connection cars upon which it has laid no embargo, shall be responsible to the connection for the per diem on cars held for delivery, including the home cars of such connection.

If such failure to receive shall continue for more than three days, the delinquent line shall thereafter in addition be responsible for the per diem on all cars wherever in transit which are thus held back for delivery.

It shall be the duty of a connecting road intending to reclaim such per diem allowance to notify the delinquent line daily of the total number of cars so held for it, and—when required—to furnish the initials and numbers of the cars.

16. When a road gives notice to a connection that for any reason it cannot accept cars in any specified traffic, thereby instituting an embargo, it should receive cars already loaded with such traffic at the time such notice is issued. If it does not receive such cars the road holding them may reclaim per diem from the road placing the embargo for the number of days such cars are held not exceeding the duration of the embargo.

After the date of the notice a road must not load or reconsign cars in such traffic to the road issuing the notice.

All such notices must be given by telegraph, by the embargoing road, to its immediate con-

nection and by it transmitted as may be necessary.

17. These rules do not apply to private cars.

18. To interpret the foregoing rules, and to settle disputes arising under them, an arbitration committee of five members (of the association having the regulation of such matters) shall be appointed by the committee on car service. Three members of the arbitration committee shall be a quorum.

In case any question or dispute arises under these rules, it may be submitted, in abstract, to the arbitration committee through the secretary of the association. The abstract shall briefly set forth the points at issue and each party's interpretation of the rules upon which its claim is based. The arbitration committee shall base its decisions upon the rules and the abstract submitted, and its decision shall be final. Should one of the parties refuse to furnish the necessary information, the arbitration committee shall use its judgment as to whether it can properly decide. All decisions shall be reported to the association through the committee on car service.

In case a question shall arise not covered by the rules, the roads disagreeing may by mutual consent submit such questions to the arbitration committee.

The committee on car service may appoint a Secretary for the arbitration committee who shall be paid by the association. The other expenses of the arbitration committee shall be equally divided between each of the parties to

the dispute and the association. The minimum charge to each road shall be $—, payable in advance. The expenses shall be first paid by the association and then billed (charged) to the parties concerned by the Treasurer of the association.

Analogous to the per diem regulations the following, quoted literally in the main, from promulgated rules and regulations, are in more or less general use among railroads, viz.:

Rates per train mile (charges therefor) for trains using other lines in avoiding washouts or other obstructions, are in effect as follows—for actual mileage used:

Fifty cents per train mile for either a passenger or freight train handled by its own engine and crew; also actual cost of pilotage, fuel, and incidental supplies furnished, plus ten per cent.; also water at rate of fifty cents per tank. In case the engine and crew are furnished by the company whose track is used, the rate is one dollar per train mile, in lieu of all other charges.

The road for which the train is detoured shall also pay the regular per diem and mileage to the owners of the cars in the train—including the road owning the track, if any of its cars are in the detoured train. The mileage charge shall be based on the actual distance over the detoured route.

The following are the rates for use of passenger equipment:

The rate for coaches, dining cars, chair cars, parlor cars, combined passenger cars and postal cars, is 3 cents per mile for

the actual distance; for baggage, express, mail storage, combined baggage-express, combined baggage-mail, and combined baggage mail-express cars the rate is 1½ cents per mile for the actual distance. These rates to apply when the owners of the cars participate in the business but not when the cars are hired to other lines.

The per diem rate for coaches, dining cars, chair cars, parlor cars, combined passenger cars and postal cars, hired at other than mileage rates, is five dollars per day; for baggage, express, mail storage, combined baggage-express, combined baggage-mail, and combined baggage-mail-express cars, the rate is three dollars per day.

NOTE.—These rates are merely illustrative, it will be understood, although more or less in general use.

When a per diem rate is charged for the use of passenger equipment, as provided for above, the total number of hours of all cars of the same class is calculated on a basis of twenty-four hours for each day and the charge made accordingly; any fraction of a day over the aggregate number of days of twenty-four hours each is counted as one day—it being understood that the minimum charge is one day for each car.

When necessary to haul cars empty over the roads owning them, or intermediate roads for delivery to the borrowing roads (by borrowing roads is meant the roads that have made a requisition for the cars) the tariff rate for such cars is charged the borrowing roads for hauling the cars from the points where they left service to the points of connection with the borrowing roads and return.

NOTE.—The charge that shall be made for the empty haul is a matter of agreement between the companies interested.

It is also a general rule—more or less observed—that the car service charge for delay in loading or unloading a freight car shall be one

dollar a day after forty-eight hours from the time of delivery of the car for loading or unloading (not including Sundays or legal holidays) except where rates are fixed by Statute or local agreements. Proper notice shall also be made in bills of lading, tariffs and freight bills, notifying shippers and consignees of the charge. Charges for delay of cars shall not be refunded except on the approval of the transportation officer designated by each road. At points where neighborhood agreements are in force, however, such regulations shall prevail as may have been prescribed by the companies interested.

CHAPTER VIII.

Forms Used by Auditor of Car Accounts. List of Same.

In reference to the forms contained herein they are intended rather as illustrative of general needs than to arbitrarily fix their number or specific details. Thus, those recounting the movement of equipment and traffic may be extended to the utmost limit of statistical data, or may be reduced to the minimum, or struck out entirely. It is merely a question of the needs of a railroad company.

And in regard to the particular form that shall be used in collecting or disseminating fundamental information that, too, is not a matter of great consequence but of local habit and preference. It is noticeable, however, in practice that a form in use by one company (and esteemed perfect) may have been greatly improved through the ingenuity and skill of the officers of another company. And it is fortunate that this is so, as one company is thus, finally, able to profit by the better practices of another.

The accompanying forms are like all railway exhibits—the eyes (in a measure) through which those in charge see the operations they are interested in and so better able to supervise and record them. That is the great purpose of such

returns. There is nothing sacred about them. What is desired is that the best should prevail, because the best serves best to secure effective service and economy of clerical work and stationery.

Form No.

C. A. 1. INTERCHANGE SLIP (RECORD) OF CARS DELIVERED BY THE RAILROAD MAKING THE RETURN. "A"

C. A. 2. DAILY INTERCHANGE REPORT OF CARS DELIVERED TO CONNECTING ROAD. "B"

C. A. 3. DAILY INTERCHANGE REPORT OF CARS RECEIVED FROM CONNECTING ROAD. "C"

C. A. 4. REPORT (POSTAL CARD) TO OWNERS OF DELIVERY OF THEIR CARS TO OTHER ROADS. "D"

C. A. 5. CORRECTION REPORT. NOTICE OF ERRORS IN REPORT (FORM C. A. 4. "D") OF DELIVERY OF FOREIGN CARS. "E"

C. A. 6. MISSING RECORD REPORT. OWNER'S REQUEST UPON OTHER COMPANIES FOR MISSING RECORD OF ITS CARS. "F"

C. A. 7. PER DIEM REPORT. MONTHLY REPORT (TO OWNERS OF CARS) OF PER DIEM AND PENALTY CREDITS ACCRUING ACCOUNT OF SUCH CARS. "G"

C. A. 8. MONTHLY SUMMARY OF PER DIEM AND OTHER CREDITS FOR USE OF FREIGHT AND OTHER CARS. "H"

C. A. 9. MONTHLY STATEMENT OF CORRECTIONS AND OMISSIONS IN ACCOUNT RENDERED OF PER DIEM AND OTHER CREDITS. "I"

C. A. 10. PER DIEM RECLAIM STATEMENT. MONTHLY STATEMENT OF RECLAIM (ABATEMENT OF CHARGES CLAIMED) BY COMPANY SWITCHING (AND USING) THE CARS. "J"

Form No.

C. A. 11. LETTER OF ADVICE ACCOMPANYING RECLAIM (FORM C. A. 10 "J") STATEMENT. "K"

C. A. 12. PENALTY NOTICE. OWNER'S NOTICE TO CONNECTING ROAD OF PENALTY TO BE CHARGED FOR FAILURE TO RETURN ITS CARS. "L"

C. A. 13. .....

C. A. 14. STATEMENT SHOWING THE TOTAL TONNAGE CAPACITY OF FREIGHT CARS IN THE SERVICE ON THE LAST DAY OF THE MONTH, AS COMPARED WITH THE PREVIOUS MONTH: THE NUMBER OF CARS AND THE TONNAGE CAPACITY THEREOF RETIRED AND REPLACED DURING THE MONTH AND THE NUMBER OF CARS DESTROYED TO BE REBUILT.

C. A. 15. COMPARATIVE (MONTHLY) STATEMENT OF PASSENGER AND FREIGHT TRAIN AND CAR MOVEMENT.

C. A. 16. STATEMENT TO OWNER OF THE NUMBER OF MILES RUN BY ITS PASSENGER EQUIPMENT ON THE LINE OF A FOREIGN ROAD.

C. A. 17. DIVISION SUPERINTENDENT'S ADVICE OF TRAINS MOVED.

C. A. 18. CONDUCTOR'S REPORT OF FREIGHT TRAIN.

C. A. 19. THE LOCAL FREIGHT CAR RECORD.

C. A. 20. FOREIGN FREIGHT CAR RECORD.

C. A. 21. RECORD OF SWITCHING RECLAIMS.

C. A. 22. NOTICE TO PAYING OFFICER OF AMOUNT OF PER DIEM AND CAR MILEAGE CHARGES DUE OTHER ROADS.

C. A. 23. MONTHLY STATEMENT OF FREIGHT TRAIN SERVICE AND MILEAGE OF FREIGHT CARS.

C. A. 24. MONTHLY STATEMENT OF PASSENGER TRAIN SERVICE AND MILEAGE OF PASSENGER TRAIN CARS.

C. A. 1. ("A")

INTERCHANGE SLIP (RECORD) OF CARS DELIVERED.

This form is used only at terminals where the interchange of equipment is large; in other cases form C. A. 2 suffices. Receipts are given from hour to hour as engineers deliver cars to the receiving road. The use of these slips enables each company to make up its daily interchange reports to the auditor car accounts, on forms C. A. 2 and C. A. 3 given elsewhere herein.

The use of this slip is emphasized more particularly at interchange points where the representatives of connecting lines are not in immediate touch with each other.

C. A. 1. ("A")

INTERCHANGE SLIP (RECORD) OF CARS DELIVERED BY

_____ R. R.

To_____ R____

At_____ M. Engine No._____
(Give hour, A. M. or P. M.)

(Name of employe in charge of delivery.)

_____ Station

_____ 19____

X Loaded. — Empty.

This form and a carbon copy thereof is to be filled up for each "cut" of cars delivered to a connecting road. (By "Cut" is meant cars taken from one freight yard to another by an engine without a train conductor.) Deliveries to different lines must not be included on the same slip. This form is to be filled up and a copy made before leaving the yards of this Company. It must be signed by the proper representative, leaving vacant the time of delivery, which will be filled in on reaching the delivery tracks of the connecting road. The signatures of the representative authorized to sign for that road must be obtained. One copy of this slip will be left with the connecting road and the other returned to the agent of the delivering road.

This report should show whether cars are loaded or Empty, X being used for loaded and — for empty cars.

These slips must be preserved for production as evidence if accuracy should be subsequently disputed.

INITIALS	KIND OF CAR	NUMBER	X —	CHECK
				1
				2
				3
				4
				5
				6
				7
				8
				9
				10
				11
				12
				13
				14
				15
				16
				17
				18
				19
				20
				21
				22
				23
				24
				25

Certified correct:

_____ R____

Certified correct:

_____ R____

Cars "Delivered" C. A. 2 ("B").
Cars "Received" C. A. 3 ("C").

Report of Interchange of Freight Cars "Delivered" to Other Lines.

This form is filled up in triplicate. It is used by agents at Junction stations for reporting both home and foreign cars delivered to a connecting road.

The agent of the delivering road should sign both the original and copies and send same to the agent of the receiving road for his signature. This report is used by the Auditor of Car Accounts in entering the movements of cars in the car record, and also for checking the per diem accounts. The agent should send the original of this report to the Auditor of Car Accounts and a (carbon) copy to the Car Service Agent, retaining the second copy for his own use.

Report of Interchange of Freight Cars "Received" from Other Lines.

This is a report for "Cars Received" and is precisely like that described above, except that it reads cars "Received from" connecting roads. The rules governing its use are of the same general tenor as those prescribed for cars delivered connecting roads.

These forms are the ones used in recording and distributing cars by the Car Service Agent. See Form C. S. 4. The original reports in question are used by the Car Service Agent, and the duplicates by the Auditor of Car Accounts in his work.

C. A. 2. "B"

REPORT OF INTERCHANGE OF FREIGHT CARS WITH OTHER LINES.

Station, No._____

DAILY INTERCHANGE REPORT OF CARS DELIVERED TO_____R_____

X Loaded.
— Empty.

From_____M., to_____M.,_____19__

INITIALS 1	Kind of Cars. 2	NUMBER 3	X 4	Check	POINT OF SHIPMENT 5	FINAL DESTINATION 6	CONTENTS 7	Hour Delivered 8
				1				
				2				
				3				
				4				
				5				
				6				
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				
				22				
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				30				
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				
				40				
				41				
				42				
				43				
				44				
				45				
				46				
				47				
				48				
				49				
				50				

I certify that these cars were received as above.

_____Agent_____R_____

_____Agent.

C. A. 4 ("D").

Junction Report of Cars Delivered to Connecting Road.

This form is used in reporting to owners the delivery of their cars to another road—i. e., when one company delivers to another company the cars of still another company. It is printed on a postal card or card of the same size.

The auditor of car accounts receives from junction agents reports of all cars delivered to connecting roads—see report form C. A. 2—. Afterwards he advises the owners of the cars (on this form C. A. 4) of the name of the road to which any of their cars may have been delivered.

C. A. 4 ("D")

REPORT (POSTAL CARD) TO OWNERS OF DELIVERY OF THEIR CARS TO OTHER ROADS.

JUNCTION REPORT OF CARS DELIVERED TO CONNECTING ROAD.

On.....19.....

X Loaded. — Empty.

(Printed signature).....

(Title of officer).....

(Address).....

CAR		X —	DELIVERED TO (Full Initials)
Full Initials	Number		

C. A. 5 ("E")

CORRECTION REPORT—NOTICE OF ERRORS IN REPORT (FORM C. A. 4) OF DELIVERY OF FOREIGN CARS.

This form is used by the company owning the car for the purpose of securing correction of error or omission in junction report, form C. A. 4. If the company owning the car discovers in writing up its car records that an error has been made by the road reporting the delivery of the car to a connection, it secures an explanation—and correction—by the use of this blank.

C. A. 5 ("E.")

CORRECTION REPORT. NOTICE OF ERRORS IN REPORT (FORM C. A. 4.) OF DELIVERY OF FOREIGN CARS.

(Address and Date.) 19

Mr.

The following cars embraced in your junction report do not agree with our records. Please advise us of the facts in the case.

(Signature.)

Title of Officer.

Initials	Car Number	Delivered to	Date	Reply

C. A. 6 ("F.")

MISSING RECORD REPORT. OWNER'S REQUEST UPON OTHER COMPANIES FOR MISSING RECORD OF ITS CARS.

(Address and Date) _____ 19___

Mr. _____

_____

_____

The cars described below delivered your line show later movements but we have no junction report showing delivery to your connections. Please supply the missing record and return sheet to me.

_____ (Signature)

_____ (Title of Officer)

INITIALS	NUMBER	DEL. YOUR LINE		MISSING RECORD		NEXT REPORT		
		BY	DATE	DELIVERED TO	DATE	DELIVERED BY	TO	DATE

NOTE.—This form, as explained, is used by the owner of cars to obtain necessary information from foreign companies. Thus, if a company in possession of a car should fail to show its delivery to a connecting road, or in fact should fail to show the proper disposition of the car, this blank is used to obtain information necessary to correct the omission. The correction should be made on this form by the company in error, after which it should be returned to the sender.

C. A. 7. ("G")

PER DIEM REPORT. MONTHLY REPORT (TO OWNERS OF CARS) OF PER DIEM AND PENALTY CREDITS ACCRUING ACCOUNT OF SUCH CARS.

Cars of_____ **R**____ **Month of**_____ **19**____

NOTE.—This form is used by the auditor of car accounts to report the per diem and penalties (credits, etc.) to the company owning the cars.

CAR		DAYS		CAR		DAYS		CAR		DAYS	
INITIALS	NUMBER	Per diem	Pen.	INITIALS	NUMBER	Per diem	Pen.	Initials	NUMBER	Per diem	Pen.

C. A. 8 ("H")

MONTHLY SUMMARY OF PER DIEM AND OTHER CREDITS FOR USE OF FREIGHT AND OTHER CARS.

For cars of_____R___., Month of_____19___

NOTE.—This form is used by the company using the cars to report to the owners the total amount due them when the number of cars requires the use of more than one sheet of form C. A. 7. This form is, however, used in all cases where there is a credit for baggage, passenger, or other than freight cars, as summarized at the bottom.

Sheet	DAYS		PER DIEM SUMMARY			AMOUNT
	Per diem	Penalty				
			Per diem		Days @ — c.	
			Penalty		Days @ — c.	
			RECLAIMS			
			Your Ref. No.	Our Ref. No.	Amount	
					TOTAL RECLAIMS	
					TOTAL PER DIEM	
			MILEAGE		AMOUNT	
			Baggage Cars	Miles @ — c		
			Passenger Cars	" @ — c.		
			Cars	" @		
					TOTAL MILEAGE	
TOTAL					GRAND TOTAL	

(Address and Date) _____19___ (Signature)

(Title of Officer)

C. A. 9 ("I").

MONTHLY STATEMENT OF CORRECTIONS AND OMISSIONS IN ACCOUNT RENDERED OF PER DIEM AND OTHER CREDITS.

Of_____ R_____ for_____

R_____ Cars for month of_____ 19____

NOTE.—This form is used by the owner of cars to correct errors in account rendered of per diem and other credits by the company using the cars.

CARS		DELIVERED TO (U. or You)			DELIVERED BY (You or U.)			PER DIEM OR PENALTY			REMARKS
INITIALS	NUMBER	BY	Date	DATE SHOULD BE	TO	Date	DATE SHOULD BE	DUE	Alld	SHOULD BE	

(Signature)

(Title of Officer)

(Address and Date) 19____

C. A. 10-("J")

PER DIEM RECLAIM STATEMENT—MONTHLY STATEMENT OF RECLAIM (ABATEMENT OF CHARGES CLAIMED) BY COMPANY SWITCHING (AND USING) THE CARS.

This form is used by the company that switches (uses) the cars, for the purpose of making a claim for an abatement of the arbitrary amount that has been charged for the use of the cars switched. This reclaim (or rebate) is demanded of the company for which the service was performed.

The junction agent of the road performing the switching renders this report in triplicate to the agent of the connecting road. Both agents sign the report. The original is sent to the Auditor of Car Accounts of the switching road; a copy is given to the agent of the road for which the switching was performed and a copy is retained by the agent of the road doing the switching.

A provision in the agreement between many companies in reference to per diem and penalty charges provides that "An arbitrary amount for each car in switching service may be reclaimed by the switching line from the road for which the service was performed. This amount shall be based upon the average number of days actually required, and determined by the roads directly interested for each local territory." To facilitate this all agents, where arbitrary time is allowed in switching service, must compile statement immediately after the close of each calendar month, showing the cars switched for other railroad companies. This statement must show both terminal and interline switching, and a separate statement must be made against each belt line or railroad. The statement must be submitted to the connecting line agents for verification and signature, as described above.

PER DIEM RECLAIM STATEMENT. (C. A. 10 "J.")

Statement of Cars Switched by_____Railroad, for_____R____

at_____ Station, Month of_____19____

Check	Date Rcvd	INITIALS	NUMBER	CONTENTS	Days Arby. Time	Check	Date Rcvd	INITIALS	NUMBER	CONTENTS	Days Arby. Time
1						51					
2						52					
3						53					
4						54					
5						55					
6						56					
7						57					
8						58					
9						59					
10						60					
11						61					
12						62					
13						63					
14						64					
15						65					
16						66					
17						67					
18						68					
19						69					
20						70					
21						71					
22						72					
23						73					
24						74					
25						75					
26						76					
27						77					
28						78					
29						79					
30						80					
31						81					
32						82					
33						83					
34						84					
35						85					
36						86					
37						87					
38						88					
39						89					
40						90					
41						91					
42						92					
43						93					
44						94					
45						95					
46						96					
47						97					
48						98					
49						99					
50						100					
	TOT.										

Correct:_____ Correct:_____

(Agent of Switching Company.)

Agent_____R____

A provision in the agreement between many companies in reference to per diem and penalty charges provides that—"An arbitrary amount for each car in switching service may be reclaimed by the switching line from the road for which the service was performed. This amount shall be based upon the average number of days actually required, and determined by the roads directly interested for each local territory."

To facilitate this all agents where arbitrary time is allowed in switching service must compile statement immediately after the close of each calendar month, showing the cars switched for other railroad companies. This statement must show both terminal and interline switching, and separate statement must be made against each belt line or railroad. The statement must be submitted to the connecting line agents for verification and signature as described above.

C. A. 11 ("K").

LETTER OF ADVICE ACCOMPANYING RECLAIM (FORM C. A. 10) STATEMENT.

File No._____

_____ 19___

_____

_____ R_____

_____

Dear Sir:—

Herewith please find reclaim statement (*i. e.*, amount of rebate claimed,) in detail for month of_____ 19___ showing cars handled in switching service for your account, at_____ station, amounting to $_____

Please include this amount in your next per diem report to this Company, quoting file number given above, or return this to the undersigned with statement of your objections.

Please acknowledge receipt on form attached.

(Signature)

_____

(Title of officer)

_____

_____

To_____

_____

_____

Dear Sir:

Your reclaim statement for month of_____ 19___ (File No._____) showing cars handled in switching service for our account at_____ station, amounting to $_____, has been received. This amount will be included in our per diem report to you for the month of_____ 19___

Yours truly,

_____

_____ R_____

(Address and date)

_____ 19___

NOTE.—This letter of advice accompanies the reclaim statement, form C. A. 10.

C. A. 12 ("L").

PENALTY NOTICE. OWNER'S NOTICE TO CONNECTING ROAD OF PENALTY TO BE CHARGED FOR FAILURE TO RETURN ITS CARS.

_____ 19____

Mr._____

_____

_____

The cars of this company, enumerated below, have been on your line_____ consecutive days and you are hereby notified that unless same are disposed of within _____days from this date, a penalty of_____cents per car per day, in addition to the regular per diem rate, will be charged for such cars. Please retain the original of this and return the copy.

_____

_____

Check	CAR			DELIVERED		REPLY		
	INITIALS	KIND	NUMBER.	BY OR AT	DATE	LOCATION	DISPOSITION	DATE
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
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28								
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30								
31								
32								
33								
34								
35								

This notice must be printed in bright red ink. (Such are the specific regulations.) It must be mailed in duplicate. The original will be retained by the receiving road and the duplicate returned as an acknowledgment, and bearing notations showing disposition made of cars which may have cleared the line of the receiving road. No form of penalty notice must be used, differing in size or style from this. This notice must be mailed in an envelope bearing the full and complete address (name, title, road, town and state) of the officer to whom sent. Preferably it should be sent by U. S. mail only, although in the case of immediate and direct connections, it may be forwarded by railway service.

PENALIZING A COMPANY. In order to penalize a company having cars in its possession (i. e., enforce a penalty for the detention of cars), the owner must demand the return of his car after it has been a stipulated number of days (say twenty) consecutively, on a road. If the car is held by such road more than a given number of days (say ten) after the date of such demand (given on the prescribed form) the penalty charge agreed upon for each day of detention thereafter, is enforced in addition to the usual per diem rate.

C. A. 14.

STATEMENT SHOWING THE TOTAL TONNAGE CAPACITY OF FREIGHT CARS IN THE SERVICE ON THE LAST DAY OF THE MONTH AS COMPARED WITH THE PREVIOUS MONTH. THE NUMBER OF CARS AND THE TONNAGE CAPACITY THEREOF RETIRED AND REPLACED DURING THE MONTH AND THE NUMBER OF CARS DESTROYED TO BE REBUILT.

This blank is used to report to the proper official the total ton capacity of cars in the service at the close of each month as compared with the previous month; also the number and ton capacity of cars retired and number and ton capacity of cars replaced during the month, and the number of cars destroyed which are to be rebuilt.

This information enables the official in question to determine the exact number of cars available for service and their carrying capacity, and to what extent the carrying capacity of the road has been increased or decreased during the month.

C. A. 14.

STATEMENT SHOWING THE TOTAL TONNAGE CAPACITY OF FREIGHT CARS IN THE SERVICE ON THE LAST DAY OF THE MONTH AS COMPARED WITH THE PREVIOUS MONTH. THE NUMBER OF CARS AND THE TONNAGE CAPACITY THEREOF RETIRED AND REPLACED DURING THE MONTH AND THE NUMBER OF CARS DESTROYED TO BE REBUILT.

Month of_____ 19___

Kind of cars	Comparative tonnage capacity in service							
	_____ 19___				_____ 19___			
Box								
Stock								
Flat								
Gondola								
Iron Ore								
Ballast								
Total								
Increase-Decrease								

Number of cars retired and replaced

Kind of cars	No. of cars retired	Tons retired	No. of cars replaced	Tons replaced
Box				
Stock				
Flat				
Gondola				
Iron Ore				
Ballast				
Total				

Number of cars destroyed to be rebuilt.

Box cars	
Furniture "	
Refrigerator "	
Stock "	
Flat "	
Gondola "	
Iron Ore "	
Ballast "	
Total	

To_____

_____

_____

Auditor Car Accounts,
[Or whoever keeps the records.]

COMPARATIVE STATEMENT OF PASSENGER AND FREIGHT TRAIN AND CAR MOVEMENT.

For the month of_____ 19___

PASSENGER	YEAR		PERCENTAGE	
	19....	19....	Increase	Decrease
Total number of trains run,				
Average number of trains run per day,				
Total number of miles run by trains,				
Average number of miles run by each train,				
Total number of miles run by passenger, baggage, mail and express cars,				
Number of passenger cars hauled,				
Number of baggage, mail and express cars hauled,				
Total number of cars hauled,				
Average number of passenger, baggage, mail and express cars hauled in each train				
FREIGHT				
Number of trains run,				
Average number of trains run per day,				
Total number of miles run by trains,				
Average number of miles run by each train,				
Total number of miles run by loaded cars,				
Total nnmber of miles run by empty cars,				
Total number of miles run by all cars,				
Number of loaded cars hauled west bound,				
Number of empty cars hauled west bound,				
Number of loaded cars hauled east bound,				
Number of empty cars hauled east bound,				
Total number of loaded cars hauled,				
Total number of empty cars hauled,				
Total number of cars hauled,				
Average number of cars hauled in each train per mile run,				

MILEAGE OF LOADED FREIGHT CARS.

(NOTE:—Like space should be provided in the statement for empty cars, if desirable to show them apart from loaded cars.)

DIVISION	WEST BOUND				EAST BOUND			
	19....	19....	Percentage Inc.	Percentage Dec.	19....	19....	Percentage Inc.	Percentage Dec.
Total Loaded Mileage								
Total Empty Mileage								

Loaded car mileage must be entered in black ink.
Empty car mileage must be entered in red ink.
Mileage of caboose and construction cars excluded.
Mileage of ore cars included.

	19....	19....
Percentage of loaded car mileage to total loaded and empty car mileage hauled . .	.....	.....
Percentage of empty car mileage to total loaded and empty car mileage hauled . .	.....	.....

Mr._____

_____ _____

_____ 19___ Auditor Car Accounts.

NOTE:—On this form is rendered a monthly comparative statement of the performance of passenger and freight trains and cars. It is compiled from the conductors' report of train, Form C. A. 18. It embraces information in regard to the number of trains run, average number of miles run by each train, number of cars hauled west and east bound, mileage of loaded and empty cars, etc., etc. This information assists the operating officials in determining whether trains and cars are being used effectively, and what the percentage of increase or decrease is for the month or year, as the case may be. The information afforded by this blank—like all similar exhibits—it is apparent, may be greatly elaborated; and so the value of the form (to the student) is largely illustrative.

C. A. 16.

STATEMENT TO OWNER OF THE NUMBER OF MILES RUN BY ITS PASSENGER EQUIPMENT ON THE LINE OF A FOREIGN ROAD.

OFFICE OF AUDITOR CAR ACCOUNTS.

To _____

Dear Sir: Herewith please find report of mileage of _____ railroad passenger cars on _____ Railway, during the month of _____ 19____

Auditor Car Accounts.

KIND OF CAR																	
NUMBER																	
DATE	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
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25																	
26																	
27																	
28																	
29																	
30																	
31																	

NOTE:—This form is used in notifying owners of passenger cars of the number of miles run by each individual car while on the line of another road. This information is required because the terms of purchase of passenger car wheels and the guarantee thereof, is in many cases based upon the number of miles run, and in no way, save this, can such information be obtained while cars are on other roads.

C. A. 17.

DIVISION SUPERINTENDENT'S ADVICE OF TRAINS MOVED.

TO THE AUDITOR, CAR ACCOUNTS. TO THE TICKET AUDITOR.	OFFICE OF SUPERINTENDENT. _____ Division. Office at _____ Date _____ 19___

Dear Sir;
Below find list of trains moved on this Division on _____ 19___

_____ Division Sup't.

No. of Train.	Name of Conductor in Charge.	Where Train Was Taken From.	Where Train Was Left.

NOTE.—This is a form on which the division superintendent reports to the auditor of car accounts a list of trains moved on his division each day. It is used to determine if conductors' reports of trains have been received for every train run on the division.

It is made in duplicate, one copy being forwarded to the ticket auditor by whom it is used in checking conductors' ticket returns and cash fare reports.

C. A. 18.

Conductor's Report of Freight Train.

This blank is the same as C. S. 3.

It is used by freight train conductors in reporting freight cars hauled in their trains. It is made in duplicate, one copy going to the auditor of car accounts, and the other to the car service agent for his use. From this report is written up the local freight car record and foreign freight car record, forms C. A. 19 and C. A. 20.

The conductor's report of freight trains is used by the auditor of car accounts in verifying the accuracy of the division superintendent's report of trians moved—Form C. A. 17. It is, moreover, the source from which information is derived of car, train, and tonnage statistics.

CONDUCTOR'S REPORT OF FREIGHT TRAIN.

C.A. 18.

FREIGHT CONDUCTOR'S TRIP REPORT. *Train No.*_____ *Date*_____ *19*____

*Ordered to leave at*_____*M. Left*_____*at*_____*M. Arrived at*_____*Station at*_____*M.*

*Conductor*_____ *Brakeman*_____

	CLAIMED.		ALLOWED	
	Through	Way-Freight	Through	Way-Freight
Scheduled Mileage,				
Overtime,				
Delayed Time,				
Switching at Terminals,				
Total Mileage for Day's Work,				

*Miles run*_____

REMARKS.

The numbers and initials of cars must be taken from the cars and not from way-bills.

	INITIALS	CAR NUMBERS		OFFICE CHECK COLUMN	BILLED FROM	BILLED TO	WHERE TAKEN	WHERE LEFT	CONTENTS	CAR MILEAGE	Weight of car & contents in tons	This column is to be left blank.	
		Loaded	Empty									TON	MILES.
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													

C. A. 19.

The Local Freight Car Record.

This record is the same as C. S. 1.

It is used by a railway for the purpose of recording the movements of its freight cars on its own (home) line; also the movements of its freight cars on other (foreign) roads.

The record is written up in the first place in the office of the car service agent and is used by him in the distribution of cars.

It is afterwards used—to save duplication of records—by the auditor of car accounts in compiling mileage statistics and in verifying the accuracy of per diem statements received from other roads.

LOCAL FREIGHT CAR RECORD. C. A. 19.

(¼ of the page.)

Movements of Cars from _____ 19___ to _____ 19___

(Illustration: Cars Nos. 7100 to 7198.)

Last Record brought forw'd	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
00																																00
02															43																	02
04																																04
06																																06
08																																08
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42																																42
44																																44
46																																46
48																																48
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

C. A. 20.

Foreign Freight Car Record.

This is the same as the Car Service Agent's return Form C. S. 2.

The record is used by a company to record the movements of foreign cars in its possession. It is written up originally in the office of the car service agent, and is used afterwards by the auditor of car accounts—to save duplication of records—in compiling statistics and in accounting to other roads for the use of their cars.

FOREIGN FREIGHT CAR RECORD.

C. A. 20.

Record of Movements of _____ R. R. freight cars during month of _____ 19____

CARS RECEIVED				Last Record Brought Forw.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Car No's	Rec. from R. R.	At Sta.	DATE	At Sta.	DATE																															
4073	I.C.	4	4 23	86	4/30										350																					
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

RECORD OF SWITCHING RECLAIMS.

For the month of_____ 19____

NAME OF ROAD AND JUNCTION.	Amounts PAID to foreign roads.	Month in which the reclaim was allowed.	Amounts RECEIVED from foreign roads.	Month in which the reclaim was allowed	REMARKS.
Railroad					
Junction					
Railroad					
Junction					
Railroad					
Junction					
Railroad					
Junction					
Total.....					

NOTE.—This form is used for the purpose of keeping a record of amounts paid to and amounts received from other roads on account of switching reclaims under the per diem rules. It shows the road and junction of interchange and the month in which settlement is made. When business is interchanged at more than one junction the total should be entered in the space provided therefor.

C. A. 22.

NOTICE TO PAYING OFFICER OF AMOUNT OF PER DIEM AND CAR MILEAGE CHARGES DUE OTHER ROADS.

OFFICE OF AUDITOR CAR ACCOUNTS.

No._____ _____ 19____

Statement of amounts due from the company specified below on account of per diem and car mileage, the same to be reported and taken up — by me in the return for month of_____ 19____

Auditor Car Accounts.

NAME OF ROAD.	MONTH.	AMOUNT.	

NOTE.—This is the auditor of car account's notice to the treasurer or accounting officer of a company of amounts due from other companies for the month on account of per diem car mileage, etc. As soon as a return is received by the auditor of car accounts from a company specifying the amount due from it, the amount is at once certified to the proper officer by the auditor of car accounts (on this blank) so that the balance for the month may be struck and the payment thereof arranged. In the plan of settlement, of which this is a part, there is no delay, it being the practice for the company in whose favor there is a balance to draw for same at sight, without notice. This is done as soon as the reports for the month, between the companies interested, have been exchanged.

C. A. 28.

Monthly Statement of Freight Train Service and Mileage of Freight Cars.

A monthly statement is rendered on this form to officials interested in the movement of equipment. It gives the number of loaded home cars moved westbound during the month, and number of miles hauled, also the number of loaded foreign cars moved westbound and their mileage, by divisions. It also gives the same information in regard to empty home and foreign cars westbound—the total of both loaded and empty westbound cars being carried out by divisions. Similar spaces are provided in the blank for loaded and empty home and foreign cars eastbound. The blank further provides for columns in which are entered the number of freight trains west and eastbound; total number of miles run by freight trains; number of cars hauled in construction trains and their mileage; total number of freight cars hauled; the average number of cars hauled in freight trains; number of miles run by freight and passenger trains, and the number of miles run by empty freight engines west and east bound.

This blank, like all these relating to movement of equipment, it is apparent, may be enlarged or reduced as the requirements of particular companies suggest.

_____Railway. C. A. 23.

OFFICE OF AUDITOR CAR ACCOUNTS.

MONTHLY STATEMENT OF FREIGHT TRAIN SERVICE AND MILEAGE OF FREIGHT CARS.

For the month of_____19___

Division.	Loaded Cars, Westbound						Total (Loaded and Empty) Westbound			
	(Home) Road		Foreign		TOTAL		(Home) Road		Foreign	
	No Cars	Miles	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles
Total										

(A similar section is provided for loaded cars eastbound: Also for empty cars westbound, and for empty cars eastbound.)

Division.	Number of Freight Trains		Total Number Miles Run by Freight Trains	Construction Trains Run		Total Number Miles Run by Freight Cars (West and East)	Total Number Freight Cars Hauled	Average No. Freight Cars Hauled in Train	Total No. Miles Run by Freight and Passenger Trains	Number Miles Run by Empty Freight Engines	
	West	East		No. Cars	Miles					West	East

Average number of cars hauled in freight train, _____

Average miles run by each train, _____

The average number of cars hauled in freight trains is found by dividing total freight car mileage by total freight train mileage. The average miles run by each freight train is found by dividing total freight train mileage by number of freight trains run. The mileage of caboose cars is eliminated.

_____

Auditor Car Accounts.

C. A. 24.

Monthly Statement of Passenger Train Service and Mileage of Passenger Train Cars.

This blank is used in rendering a monthly statement to officials interested in the movement of equipment, of the number of passenger, sleeping, baggage and mail cars hauled during the month, and the mileage thereof. It is so arranged that the number and mileage of westbound passenger, sleeping, baggage and mail cars, home and foreign, are shown separately by divisions; totals for passenger cars, westbound, and their mileage is also given. In the form as used similar sections are provided for eastbound cars.

In addition to the above it is also arranged to show, by divisions, the number of passenger trains run east and west; the total number of miles run by passenger trains; total number of miles run by passenger cars; total number of passenger cars hauled; average number of cars hauled in passenger trains, and the number of miles run by empty passenger engines west and east bound.

This exhibit like all those contained herein relating to the movement of equipment, traffic, etc., may be enlarged or reduced according to the requirements of those using them. They are merely illustrative therefore.

_____ Railway. C.A. 24.

OFFICE OF AUDITOR CAR ACCOUNTS.

MONTHLY STATEMENT OF PASSENGER TRAIN SERVICE AND MILEAGE OF PASSENGER TRAIN CARS.

For the month of _____ 19____

DIVISION	PASSENGER AND SLEEPING CARS, WESTBOUND						BAGGAGE AND MAIL CARS, WESTBOUND						Grand Total, Westb'd	
	(Home) Road		Foreign		Total		(Home) Road		Foreign		Total			
	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles	No. Cars	Miles
TOTAL														

(Similar space is provided for passenger equipment eastbound.)

DIVISION	NUMBER OF PASSENGER TRAINS		Total Number Miles Run by Passenger Trains	Total Number Miles Run by Passenger Cars	Total Number Passenger Cars Hauled	Average Number Cars Hauled in Passenger Trains	EMPTY PASSENGER ENGINE MILEAGE	
	Westbound	Eastbound					Westbound	Eastbound
TOTAL								

Average number of cars hauled in passenger train _____

Average miles run by each train _____

The average number of cars hauled in passenger train is found by dividing total passenger car mileage by total passenger train mileage.

The average miles run by each passenger train is found by dividing total passenger train mileage by number passenger trains run.

_____

Auditor Car Accounts.

CHAPTER IX.

Care and Maintenance of Cars.

Fully seventy per cent of the total cost of railway equipment is for cars. Afterwards their care and maintenance, including cost of operating and maintaining shops, machinery, tools, necessary tracks, superintendence, etc., approximates eight per cent of the gross cost of operating a railroad.

These enormous expenditures are carried on under the advice and direction of the Superintendent of the Car Department. And it is found that the more often his advice is sought and the greater heed paid to it, the greater the benefit that will accrue to the railroad company. The earlier in the operation of a railroad that a capable Superintendent of Cars is appointed and asked to locate and map out car shops and grounds, and the tracks incident thereto, the better it will be for the company afterwards.

The location of shops and the provisions in connection therewith on new lines are, too often, the last things thought of in connection with the construction work. And it is a common thing on well managed railroads to see local round-houses and car and engine repair shops erected without any provision being made

for the storage and care of material, tools, and things of that kind. This is because co-operative advice is not sought; somebody who only knows (or thinks of) part of what is needed, thoughtlessly takes the responsibility of deciding for all!

In the planning and building of a railroad, (unless it be an extension of an old system or the work is supervised by veterans in railway operations) little thought is given to anything except the main line and sidings. Somebody, it is quite likely, who perhaps knows very little about the needs of equipment, will say, with a look that silences everyone within hearing, "Well, let us put aside thirty acres at such and such a place for shops," when, very likely one hundred acres or more could be used to advantage. Thus the superintendent of the car department and the superintendent of motive power and machinery are never afterwards able to work effectively; and, because of this handicap the maintenance of equipment is carried on at a disadvantage and at increased cost for all time —and this because the advice of experts, (in the company's employ and under pay) was not sought at the proper time or proper deference paid to their superior judgment and experience.

The planning of passenger cars passed with the advent of Pullman, from the hands of mechanics to those of skilful designers, artists and high class decorators. Freight car construction, on the other hand, still looks wholly to strength

and practical utility. Nevertheless these homely vehicles have improved somewhat in beauty of outline as well as in strength and carrying capacity. Car construction is still carried on to a certain extent by railway companies, but more commonly than otherwise they devote their energies in this direction to maintaining the cars they buy in the open market; and it is in reference to the maintenance of cars, including their care and working, that this chapter treats.

Responsibility for this service rests upon the official known as the Superintendent of the Car Department.* His duties are of an executive character and embrace responsibilities requiring in their exercise extended practical experience and administrative qualities of the highest order.

His opportunities to further the interests of his company are, perhaps, greater in degree than any other official having to do with the handling and supervision of cars. The field he superintends is great and the wear and tear and unavoidable destruction of property from accidents and otherwise, constant. It is his particular duty to see that these losses are minimized and that the car equipment is maintained at the maximum of efficiency with the least possible cost.

If all of the cars that belonged to a railroad passed daily under the eye of the superintendent, his immediate knowledge of their needs in the way of maintenance and betterments would greatly simplify the situation. But as a matter of fact the cars subject to his guardianship and

*The old title—still used sometimes—was Master Car Builder.

care, number many thousands and are scattered over the whole country—for he must not only look after the cars on the home line but those also in use by connecting roads. How is he to keep himself advised? How act, when he does not see the cars and is ignorant of their location and condition except, indeed, the few that pass into or out of the shops and yards under his immediate eye? Manifestly, in order to be familiar with these details; to know where the cars are, whether they fulfill requirements or not, what their condition is, and the repairs that are necessary, he must depend on the returns—verbal and written—that he receives from his subordinates and others.

With the aid of these he may and does know the condition of every car, and, summing up the whole, of the cars in the aggregate. The trustworthiness of the returns he receives is apparent, for in every case they are based on the personal inspection and knowledge of those in immediate charge. Thus the superintendent and his assistants are kept advised of each kind of car and its condition, and thus advised they are able to maintain them effectively, and doing so meet the just and pressing expectations of the management, and the urgent requirements of the public who use the cars.

These returns are illustrated at length further on, with explanations of their purpose, how compiled, when and by whom made and to whom sent. With the aid of these, those in charge are able to scrutinize each car requiring attention, wher-

ever it may happen to be. Through these returns they know what cars require repairs, what repairs are being made and where, and how many men are engaged in such work, including that of maintaining, cleaning and lighting the cars in actual use. Through these returns the superintendent knows how many cars are available, how many are in the hospital, the nature of their ailment and, finally, when they will be put back into the service; information, in fact, so specific that the forms have but to be studied by those concerned to keep them informed as effectively as if present in person on the ground.

This is one important feature of car supervision in its daily application, and all who would seek to know the practical working and administering of the car department must study these forms—learn them by heart—for no where else can the information they contain be found.

The duties of the superintendent relate also, as an advisory officer, to the procurement of new cars from time to time, as the service requires. And, in connection with such needs, he must be advised by observation, research, and practical experience, concerning the constructive features of cars including all the minor appliances and fixtures relating thereto. For the evolution in construction and adaptation of cars to practical needs—demonstated by experience or evolved by inventive genius—is as constant and as great as in any other field of industry. This does not need illustration; or, if it did, we have but to compare the cars formerly on railways with

those in current use. In every feature there has been advancement, greater strength and, consequently, greater durability; increased utility; greater capacity; greater security; and, in the case of passenger cars, greater safety and comfort. All this, withal, with relatively less cost.

It is, however, in connection with the maintenance of cars that the greatest usefulness of the department lies. The ordering of equipment is of infrequent occurrence and easy of accomplishment. Its maintenance afterwards, however, requires incessant care and watchfulness over a wide field; work that demands in its discharge extended and diversified experience and a high order of talent. The great quantity of material that the maintenance of cars involves, the superintendent and his assistants must personally supervise. This material embraces a vast number of articles of widely different nature and varied utility, but alike necessary in the conduct of business. These requirements involve vast outlays of money, but are lessened greatly, in practical work, through the ingenuity and skill of those in charge by the refuse of scrap and other available parts of abandoned cars. In this way a great saving, scarcely known or appreciated outside of the department, is effected.

Not only must those in charge possess technical skill, but the business acumen that is evinced in the wise foresight that anticipates the wants of the department, and so makes provident use of the present to order the equipment and material that will be needed in the future; and this

without exaggerating actual and imperative requirements. The care exercised not to exceed actual needs as regards supplies ordered for future general use and temporarily stored in the care of the storekeepers of a company, also extends to supplies placed in the hands of foremen for immediate use in and about the shops and repair tracks and sheds. And in regard to these last petty supplies taken from the general store, the same watchfulness is exercised to prevent waste or improper use that is thrown around the general supplies of a company; for neglect here, as elsewhere, invites extravagance, added cost and unsatisfactory results.

Further supervision over the material of the car department is aided by carefully devised reports of material used and on hand, made by foremen and others at the shops and various depots where supplies are kept to meet daily needs.

In this way it will be seen the care and watchfulness continue from the time material is ordered until it is actually used; and, according to the measure of this supervision, it is needless to add, efficiency or the reverse will exist. And when speaking of material, not only articles used in the maintenance of cars is meant, but tools, lubricants, waste and other supplies, including those for lighting and the implements and fixtures incident thereto. Finally, the measure of efficiency exercised in the disbursement and use of material, is scrutinized by the management in the light of returns showing the cost per mile

run by cars, and in such other ways as the ingenuity of those in charge may devise and enforce.

Among the important returns required by the department are those relating to the wear and tear of wheels, the strength and durability of which is a matter of such supreme importance to the safe and economical operation of trains. Through these returns the superintendent and his aids are kept advised of the actual life of every wheel and the work it has performed. In furtherance of this, particulars of all defects are reported and carefully tabulated for future guidance and reference. Records are also kept of all wheels guaranteed by manufacturers to see that the guarantees are fulfilled in practice. Reports are also required of hot boxes and the cause thereof, when delays and accidents result therefrom. Similarly, failures and defects in air-brakes are valuable for the information and guidance of those interested.

Concerning the car proper the superintendent requires reports of all cars damaged and in many cases the cause thereof; particulars of bad order cars on hand and where located; cars worn out and destroyed by his orders; special and general repairs required by cars, including those owned by other companies; cars cleaned; cars repainted; cars rebuilt; cars ready for service; new cars received. Reports, in fact covering every phase of the subject necessary to his enlightenment, and that of the managing officials of the company.

The numbering of cars and the grouping of

the numbers is one of the many duties which falls to the lot of the superintendent. The practices of railroad companies are not, however, uniform in regard to numbering cars. Thus one company will set aside all numbers say from 1 to 1500 for its passenger cars; and all over that number for freight cars. Of the latter series, the even numbers will perhaps be assigned to box, furniture, refrigerator and other enclosed cars; the odd numbers being assigned to other classes of cars. Or a company may set aside the numbers, both odd and even, between 10,000 and 20,000 for one class of cars and between 20,000 and 30,000 for another class, and so on. The purpose, whatever the plan may be, being to enable those interested to determine the kind and class of a car upon hearing the number, so far as any plan can do this without too much elaboration.

The lettering on cars seems a simple and mechanical matter to the idle looker-on, yet it is not so; for the information conveyed and the manner and place of conveying it are, really, matters of careful study and arrangement based on long experience and the needs of the service. On some cars the work is artistic, so far as its nature permits; on others it is the reverse. So, too, in regard to painting cars: the color and kind of paint and the quality of varnish, and the manner in which all are applied, more often than otherwise indicate taste and discernment as well as the practical question of usefulness and wear and tear.

Another duty that belongs to the superintendent of the car department is the preparation and general distribution of the "Object" cards that are nailed to cars showing at a glance those that are in "bad order;" that are "defective;" that need "light repairs;" that need "general repairs;" that are "to be destroyed;" that are "ready for service;" that are loaded with "inflammable material;" that are subject to "penalty" under the rules; "home route" cards, etc. Provision in fact, being made to cover every emergency of the service at the minimum of cost.

Similarly, the oversight of the superintendent and his assistants extends, with minute particularity, to every phase of the work: the maintenance of shops; the procurement and maintenance of machinery and tools; details of repairs to cars; cars rebuilt; articles manufactured for use by the department; piece work; work done for individuals and corporations, and so on. And as the cars of different companies are used in common, it falls to the department to make such repairs as may be necessary to the cars of other roads, and in doing so to discriminate between the repairs that are chargeable against the owner and those that must be made at the expense of the company using them.

The permanent records in the office of the superintendent of cars depend upon the division of the work as regards the handling of material and the keeping of the accounts. Those of a fundamental nature, however, that may be named, irrespective of any such conditions, are:

the record of repairs to different classes of cars, a record of passenger cars; record of freight and other cars; record of oil, waste and tallow used; record of car wheels; record of car mileage; and, finally, material and labor records. The extent of these last named will, however, as already observed, depend upon the organization as regards division of work and responsibility.

It is to the superintendent of cars and those about him, as already intimated, that a company should look for plans for its shops and repair buildings; the tools and machinery the service requires; the tracks and sidings necessary for the purposes of the department, and all the other paraphernalia incident to its operations.

He is at once a constructive and operating official; building up and afterwards maintaining and operating. And to do this he must feel the pulsations of his department however remote or faint. Through observation, personal intercourse, the telegraph, and special and stated returns, he keeps himself actively and in minute contact with every phase of the situation. The information, thus acquired, is imparted by him to such general managing officials of the company as may be interested. And this last is as necessary as the first; for in no other way can he secure their active and intelligent co-operation and advice; things so necessary in corporate life where there is divided responsibility for work done and results achieved.

Not only does the superintendent keep himself in touch with the local conditions and needs

but through attendance at the meetings of superintendents of cars and by personal intercourse with such officers on other roads, keeps his plant and equipment in line with the best constructive and operating practices of the day. And it is due to him and this intercourse, that the uniformity and general usefulness of cars has been obtained.

And it is needless to say that the measure of success the individual superintendent attains in his intercourse with the officials of other companies is dependent upon his industry, experience and tact. It also falls out, in this connection, in the practices of the department, that because of the general understanding among master car builders, the superintendent of the car department has, in a great measure, to supervise and audit the manifold accounts that arise between railroads in connection with the repair and maintenance of the cars used in joint service. And as these accounts are numerous and often complicated and for considerable amounts, the faithful performance of the service requires time and accurate knowledge, and systematic provision.

In conclusion, it may be said, that the great number of men employed by the car department, scattered as they are over a wide territory, involve careful organization and constant watchfulness. In the building up of the force, those employed are selected only after careful scrutiny under forms prescribed by the superintendent. Thus, he controls the force and, through the

returns, keeps himself advised of its work; the number of men at each point; the actual time worked by each man—including regular and overtime—; the kind of work each man is engaged upon, and finally what he accomplishes.

In this way and by carefully devised methods, the result of experience and careful provision, the department is supervised throughout, the superintendent and other responsible officers of the company watching the procurement of cars and, afterwards, their maintenance; the purchasing of material; its use; the hiring and discharging of men; their need and fitness; and so on through all the varied ramifications and multiplied exigencies of the service.

CHAPTER X.

Arrangement of Car Shops and Organization of Forces.

I have described in the preceding chapter, with more or less particularity, the duties and responsibilities of those in charge of the care and maintenance of cars. However, in this case, as in every other of a like nature, it is interesting and instructive above all to hear what the master himself—the man who actually does the thing—has to say on the subject. The great importance and value of such expression has led me to solicit —and happily to secure—this from Mr. Charles A. Schroyer, a superintendent of the car department of one of the great railways of the world; a man of long and widely diversified experience, who has no superior in the service and is everywhere recognized as an eminent and trustworthy authority in this important branch of railway operations.

Having secured this interesting and highly valuable exposition of the subject, I submit it without comment for the benefit and enlightenment of those who seek to know something concerning the administration and interior working of the car department, but whose facilities render the acquiring of such information impossible; information, it may be said, that is of the greatest

value to everyone who seeks railway advancement in this or any of the other fields of preferment. With this brief explanation I submit what Mr. Schroyer so pertinently says on the subject.

The large number of passenger and freight cars, that comprise the rolling stock of a railroad, are of so much importance that the work of maintaining this equipment requires the most careful preparation and supervision.

In the beginning of railroads, and now with new roads, oftentimes little provision is made or thought given to the repair and maintenance of cars; a few outlying tracks and rough sheds being deemed sufficient.

As the car equipment of a railroad increases in number and age, however, the importance of its maintenance becomes more and more pronounced. Permanent shops are then established for performing such work as is required in making what is generally known among car men as "Heavy repairs to freight cars." Shops are erected, machinery installed, and permanent tracks laid in close proximity, where the work of making light and heavy repairs can be carried on at the minimum of cost. Organization for supervising and doing the work also assumes tangible shape. Schemes, such as Transfer-tables (operated by electricity) for handling cars in the yards, places for the storage of cars while awaiting repairs, provision for painting cars, and other necessary facilities are inaugurated.

The organization of the car department, as finally perfected, is generally, as follows:

The Superintendent of the Car Department or Master Car Builder, who has charge of the forces constructing and maintaining car equipment.

Interchange Inspectors. Their duties are to inspect cars under "Master Car Builders'" (M. C. B) rules at interchange points where cars are delivered to and received from foreign companies. They note the general condition of the cars and especially defects for which owners are responsible in contradistinction to defects for which the operating line is responsible; these they write up on the records and specialize in their returns.

General Inspectors. Their duties are to inspect cars at terminal stations, to determine whether or not they are safe for operation and handling freight.

NOTE.—Inspectors of passenger cars at Terminals are classed as General Inspectors.

Local Inspectors. These inspectors are located at important stations along the line and it is their duty to inspect cars while enroute, to determine their safety and to ascertain whether or not defects are such as to necessitate the removal of the car from the train in order to prevent accident or further damage; also to look after the oiling and icing of cars enroute, etc.

General Foreman. His duties are to supervise inspectors and local foremen, in the yard of the principal shop where heavy repairs are made to cars. He also has general charge of such work

and is in fact one of the superintendent's immediate assistants.

Gang Foremen. They have charge of the men actually making repairs to cars.

Freight Car Foremen of the first class. They are employed in the yards where heavy repairs are made, about the principal shop.

Freight Car Foremen of the second class. They are employed in charge of the force at local points where light repairs are made.

Foremen of the third class. They have charge of the force at local points engaged in making running repairs to cars in transit.

Freight Car Carpenters. They are employed in yards where the principal work is performed, and their duties comprise laying out; framing of heavy and other timbers of the car; and the work of constructing new cars. This class of help furnishes its own tools.

Freight Car Repairers. The men who take the lead in the work performed in making heavy repairs to cars.

Freight Car Repairers' Helpers. These men do the secondary work and assist the Car Repairers where heavy repairs are being made.

Car Smiths. Performing the general work of repairs in yards where light and running repairs are made.

Handy Men. Employed at local and terminal stations whose duties comprise oiling, inspecting, cleaning, icing and making light repairs to cars.

Car Oilers: men whose exclusive duties are the oiling of both freight and passenger cars.

Oilers and Inspectors: men whose duties embrace the oiling and inspection of cars while in transit, in terminal yards, and on team tracks, etc.

Foreman's Clerk. His duties are somewhat general but more particularly embrace the keeping of a record of all cars passing over the repair tracks; details of repairs made to same; filling out cards in accordance with the Master Car Builders' rules for defects existing, for repairs made, for defects for which owners are responsible, and for repairs made for which the operating line is responsible.

The above classification, in a general way, covers the important divisions. A force employed for special purposes is always so indicated on the pay roll and other records of a company.

The location of the car shops should be centralized to the greatest possible extent at such points as will best meet the requirements of the service and avoid, as far as possible, the transporting of bad order cars over the line.

On a railroad having from, say, four to five thousand miles of track, two main shops should be conveniently located at different points on the line, in which there should be facilities for making heavy repairs and getting out the various kinds and classes of materials used in such repairs of cars.*

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*In this case as in all similar cases the provision made should be such as the needs of a company require.

The shops should be generally arranged as follows:

Blacksmith Shop. Such a shop should be especially provided for doing the work of the car department, lest the work should be interrupted by the miscellaneous and varied character of work performed in the locomotive department blacksmith shops. It usually happens that when car department work is left to be done by another department, the work of the latter is too often considered more important and so is given the preference—the car work suffering correspondingly therefrom. It is also of advantage to have a blacksmith shop for the car department for the reason that the work can be done by men of less skill than in the locomotive blacksmith shop because of the large quantities of work of a duplicate character.

The Planing Mill. The planing mill should be so arranged as to enable the work of framing heavy timbers to be done in one part of the mill, and the work of a lighter nature taken care of in another part without being brought in contact with one another.

Cabinet Shop. This shop should be provided with facilities for taking care of the lighter class of work in framing way (caboose) cars, refrigerator cars, and other similar classes of miscellaneous car equipment.

The Foundry. The foundry should be provided with sufficient capacity for the getting out of both brasses and gray iron castings.

Machine Shop. The machine shop work of the

car department can also be done by men of less skill than those ordinarily classed as machinists; and therefore it is economy to have a machine shop for the car department separate from the locomotive machine shop. This shop should be located on tracks having switches at both ends where work of repairs of a heavy nature can be made and where bad order cars can be placed at one end and good order, or repaired cars, can be taken out from the other. A series of tracks should also be placed in close proximity to the shop, on which cars may be placed that are in need of repairs ordinarily classed as "light." A switch should be placed at either end of such tracks, to be used in placing bad order cars at one end and for removing repaired cars at the opposite end. A sufficient number of tracks should be installed in the yard at such places where they will not interfere with the work of the switching department, upon which may be stored cars awaiting repairs, and also those that are to be painted.

A Scrap Yard is necessary where materials removed from cars repaired and from wrecked cars received from the road, can be assorted and disposed of. A well regulated scrap yard is of more value to a railway company than is usually thought, and if it is not properly arranged, the work of handling scrap material is so laborious that often times the amount received from the sale of the scrap does not much more than pay for the labor performed.

A permanent wrecking derrick should be pro-

vided in close proximity to the scrap yard where heavy materials, usually consisting of trucks and heavy material received from the line, can be loaded and unloaded. A great saving can thus be effected by the labor saved through the lesser number of men required to handle heavy material.

The grouping of these shops and tracks should be of such a character as to enable materials from the mill, blacksmith shop, etc., to be transported from shop to shop at a minimum cost. No fixed plan can be laid down for a shop of this character for the reason that it must always be made to meet the land and track conditions in and about the yards in which it is built.

The system under which work is conducted must necessarily be varied to meet track and switching conditions in the yard. The best practice, however, in important yards where both heavy and light repairs are handled, is to have an inspector inspect all cars received from outlying divisions; and in this inspection, he should be the judge as to the classification of repairs to be made—which classification should be the basis for determining where car should be placed and what work is needed to place the car in first class repair.

All bad order cars on which repairs can be made in one day or less should be grouped and classed as "A" (light) repairs, and a card known as the "A" card applied to each car. This card indicates the initial, number of car, classification of repair work needed, together with a space for the name of the inspector. Cars which require more than one day and less than two days for

making the repairs should be classified as "B". Those requiring two days or more as "C" repairs. These cards should be of different colors to enable the switch crews to determine at a glance what disposition should be made of the car; and all cars of the different classes should be set on a track by themselves, and the work got out uniformly, thus avoiding the re-switching of the cars and the holding of same, as would be the case if heavy and light repairs were mixed indiscriminately on the track.

Good practice requires that such parts of cars as require painting, be done first to enable them to receive a coat of paint while on the repair track prior to going onto the regular paint tracks. This greatly facilitates the work of painting.

Wrecked cars, or those so badly damaged as to extend beyond the class "C" repairs, should have repairs made under cover in a shop especially provided for this class of work.

Cars requiring light repairs should always be given preference over the heavy, the heavy repairs being held until such time as the light repair work slackens, as this practice will tend to reduce the number of bad order cars held for repairs to the minimum, thus enabling a larger number of cars to be continued in service. Under certain conditions heavy repair cars are often held what is apparently an unusual length of time, but this is found desirable when the force cannot be regularly employed on both heavy and light repairs at the same time.

The arrangement of the machinery in the

planing mill is of such importance that the most careful attention should be given it to enable the work to be done in such a manner as to have that of a heavy character moved straight through the mill and never backwards. This can be done by means of wooden horses or dollys for shifting heavy materials from one machine to another and so enable the men to take the rough material in at one end of the mill and turn out the finished product at the other with the minimum amount of delay.

Light materials taken out of the mill should in all cases be got out on trucks to avoid laying them on the floor and reloading them. A great saving in time can be made by the foremen if particular attention is paid to this.

The matter of conveying the shavings and offfall from the machines and saws, to the boiler room, is one of the utmost importance, and modern methods for so doing should in all cases be employed.

The Pattern Shop and Cabinet Shop should be in the same room if possible, as the machinery employed in the two departments of the work is practically the same and by so associating them, the same machines will answer the purposes of both departments.

The location of the machine and blacksmith shops should be such as to enable the heavy materials to be got out in these departments and transferred or loaded at the minimum cost.

Tracks for the storage of wheels mounted for use should be sufficiently close to the "Pressing

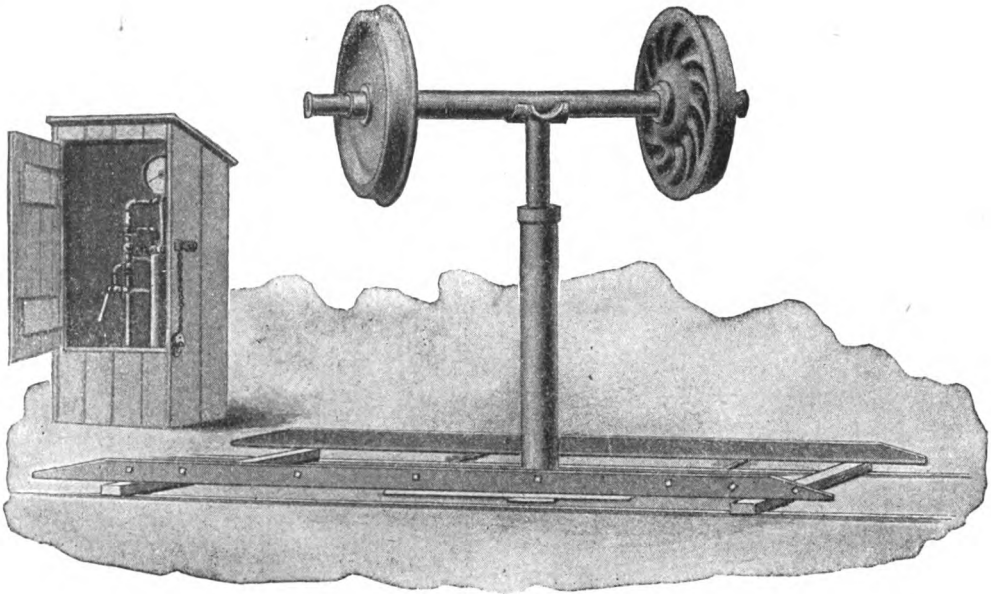
off and on machinery" as to enable quick delivery of same to be made. Tracks should be inclined away from the machine shop toward the point where loading and unloading is done, as this allows the wheels to be taken from the tracks in the order that they are mounted. Great care should be exercised in using first the oldest wheels on track; this on account of the time guarantee on freight wheels.

Tracks on which wheels are stored to be dismounted, should be inclined toward the shop to have them move by gravity to as great an extent as possible.

The best method of loading and unloading mounted wheels has been found in the use of the piston jack (see illustration on next page), located in the ground and operated with air pressure to raise the wheels up to car level, rather than to use the old style derricks.

The jacking up of cars, the cleaning of air brake cylinders and triple valves and the testing of air brakes by means of air pressure have been found to cut so much figure in economy and cost, that the greatest consideration should be given the same in the arrangements of the yard.

At terminal stations sufficient trackage should be provided, conveniently located, to enable bad order cars to be switched out of trains and got to and from the repair yards without interference with other equipment. These tracks should be provided with air for testing air brakes, jacking up cars, etc. A stock house of sufficient capacity should also be provided to properly care for such



PISTON JACK.

This appliance is located between the rails of the car track and is used to raise mounted wheels to or lower them from flat cars or gondola cars with drop ends. The car to be loaded or unloaded is placed close to the jack; the skid way is swung over the jack, one end resting on the car and the other on a second car or some other support. The wheels are raised or lowered between the rails of the skid. If necessary a car of wheels can be loaded and another unloaded at the same time. The jack is operated by compressed air and manipulated by a controlling valve located conveniently near in a suitable protecting box as shown.

materials as are used in and about a yard of this kind, where machinery and smith work is necessarily limited to that which can be procured from the Main Shops, the work being confined to that which can be done with materials of this kind.

At local points of sufficient importance, tracks holding a limited number of cars conveniently located should be provided; also a small stock house for the storage of waste and oil and such other materials as are ordinarily used in work of what is known as light or running repairs.

The lubrication of cars is a question upon which more could be said than can be outlined in this article. Briefly, the yards where heavy repairs are made to cars, should be equipped with an oil house having apparatus therein for the sorting of the waste; steam heating tanks where the waste can be heated to the proper degree of temperature; presses where condemned waste can be pressed and the oil extracted from it and the condemned waste sent to the locomotive department for firing up engines. The usable waste that has been sorted, should be mixed with new. Soaking vats should be provided where the waste can be placed in oil for soaking, and draining racks in which it can be placed for draining off the superfluous oil.

The condemned waste removed and used for firing up engines is of sufficient value to pay the entire expense involved in the operation. The oil extracted is clear gain.

All waste should be soaked at least 24 hours before using (the longer the better). Journal

boxes of all cars undergoing heavy repairs, if not repacked within two years, should have all the waste removed and taken to the oil house and disposed of as indicated above; that which is usable should be mixed with new waste and soaked and the boxes repacked. The benefits gained by this practice are great.

At outside yards and terminals where light and running repairs only are made, the shop should be provided with oil tanks, soaking vats and draining racks, so that a sufficient quantity of waste properly saturated may be carried in stock at all times for renewal.

At local points where cars are cared for while en route the same provision should be made, and cans for properly saturated waste, or combination cans for oil and waste, should be stored in the yards for convenient use when necessary.

The repairs of air brakes is a matter which needs the most careful attention. Large expenditures are made in fitting cars with these appliances and the practice of letting the hose hang down from the end of the cars results in much sand and dirt being carried into the train pipe, through the strainers and into the triple valves. In many cases, the smaller particles of sand reach the cylinders where it has a tendency to cut the leather packing.

All well equipped shops are provided with necessary tools and appliances for cleaning and making light repairs to triple valves. Repairs of a heavy character should be sent to the Air Brake company originally furnishing the valves,

as an ordinary car shop is not equipped to do work sufficiently accurate for a piece of machinery of this character. Valves from the yards and the road should be sent to the shop where they can be repaired and cared for as indicated. The cleaning of air brake cylinders and the removal and replacement of the triple valves should be done in all cases when the valves have been in service eight months or more. The tightening up of leaky joints; removal and replacement of angle cocks, hose and couplings; the tightening up of air brake pipes and cylinders; the removal and replacement of worn out brake shoes; and the testing and adjusting of the apparatus should be performed in the repair yards, on warehouse tracks, on team tracks and other tracks when the cars are stored there a sufficient length of time, and it is possible for them to be reached with air pipes for the purpose of testing. The work should be done by a man especially skilled in work of this character.

The passenger equipment of a railroad is so valuable and its maintenance comprises so great a percentage of cost, that it must be handled with the most complete organization and best arranged shops to insure its maintenance at the minimum cost. The organization for conducting the work is, substantially, as follows:

Foreman of Passenger Repairing or Carpenter Shop. His duties embrace the general work of repairing and maintaining the passenger cars in so far as the woodwork of the car is concerned;

also the direction of the iron, paint, tin and upholstering departments.

Foreman of Trimming Department. His duties comprise a general inspection of cars on their arrival at the shop. He reports, on form provided, all work to be performed on the cars. He has charge of the force which strips or removes from the cars, the doors, sash, blinds, seats, trimmings, etc.: has the same properly marked and tabulated and delivered to the proper department where the work of cleaning, repairing, etc. is performed. Also the assembling and re-trimming of the cars after the general work of repairs is finished.

Foreman of Truck and Platform Repairs. He is in charge of the men employed on the work of repairing all portions of trucks and platforms, including air brakes.

Foreman Tinner. His duties are to look after the repairs of all portions of the car pertaining to the tin department.

Foreman Upholsterer. His duties comprise the transporting of seats and backs, curtains, carpets, etc. from the cars to the upholstering cleaning department, properly cleaning and repairing the same and re-conveying to the car when finished and ready for service.

Foreman Painter. His duties comprise the determining of the class of painting and the work to be done on the car and the supervision of the same.

Foreman of the Cabinet Department. His duties comprise the construction of and repairs to interior parts of the cars.

Where the work of maintaining passenger cars is conducted at shops where freight car repairing is performed, the foreman of the planing mill, machine shop and blacksmith shop, necessarily performs the work that must be done for both departments, passenger and freight.

Foreman of Outside Cleaning Yards. He is located at terminal stations and his duties comprise the making of light and running repairs, the cleaning and caring for cars while the same are in service.

Inspectors at Terminal Stations. His duties comprise the general inspection of all parts of the car for the purpose of determining as to its safety for transporting passengers on the line.

Local Inspectors. These are located at the principal stations along the line and their duties comprise the inspection of trains while in transit, the lubrication and care of same, and making such light repairs as are found necessary.

The grouping of buildings for the maintenance of passenger cars depends very largely on the ground space and arrangement of the tracks. A desirable arrangement is that which will bring them in such relation to each other as to facilitate the transfer of interior furnishings of the car comprised of seats, backs, curtains, carpets, upholstering, etc., to and from the upholstering department; the parts of the seats, etc., to be repaired by the cabinet department; the doors, sash, blinds, etc., that go to the carpenter shop for repairs; and, finally, convenient facilities

for reaching the varnish room and the car on its completion.

A sufficient number of tracks should be set aside for the repairs of trucks of all passenger cars received at the shops for repairs. The trucks should be removed and transported to the tracks provided, where they should receive thorough overhauling, first in squaring the truck frames; second the removal and replacement of worn or broken parts; third the removal and replacement of worn out wheels and journals.

The introduction of the air brake and in many cases large tanks for water and gas, often necessitates the removal of the trucks at the end of the car; one on either side of the shop. When this is done, one truck can be transported on the ordinary car transfer table, while on the other side there should be a ground rail laid with a transfer truck on which the car trucks can be jacked to a sufficient height and transported to the tracks on which the repairs can be made.

A desirable shop for the repairs and painting of passenger cars should be rectangular in shape and each track should hold one car, the width of the building should be not less than 85 feet. The number of tracks per shop depends upon the ground space and the number of cars to be repaired. A well organized and managed shop will turn out from each track therein, three to four cars per month depending on the number of men employed.

It is desirable that the carpenter and truck repairing shops be provided with the same num-

ber of tracks as are the paint shops. This is especially desirable in view of the fact that touching up and varnishing can be done in the carpenter shop when found advisable.

The car transfer tables should be not less than 65 feet in length, and operated by electricity both in the movement of the table itself and in the arrangement for pulling cars in and out of the shops and located in such a manner as to best meet the location of the shop buildings.

It is not advisable to have upholstering, cabinet, tin, or other shops on the second floor of repair buildings, except when ground space is so limited as to require it; danger from fire is much greater in the case of two-story structures, while the expense of operating elevators in raising and lowering material largely increases the cost.

CHAPTER XI.

List of Forms by the Aid of Which Those in Charge Are Advised of the Needs, Workings and Results Achieved in the Car Department.

No one can understand the details and workings of the department that looks after the care and maintenance of cars without studying and understanding the forms used in connection with the work. They are the far-reaching eyes —the long distance spectacles—through which the Superintendent of the Car Department and his assistants scan the vast and widely extended territory over which the cars are scattered; but where, nevertheless, their safety and maintenance must be carefully looked after every hour of the day. This list is not exhaustive and may be added to according to the uses those in charge can make of such information. The number of cars and the character of a road determine such things.

The more extended and complicated the area, the more need there is for aids of this character to watch the field effectively.

The forms used by railroad companies in this particular branch of the service are not more uniform than in other departments, except in so

far as they are formulated by the Master Car Builders. The ingenuity of those in immediate charge provides for every emergency, borrowing freely from other companies when they are better, as acquaintance and opportunity offer.

The forms used in the car department, like all those used by railway companies, are not only extremely interesting for the specific things they cover, but also for the things they suggest. They are such as practical experience has demonstrated to be useful in the economy of the service. They are very simple—like all railway blanks—being designed to save clerical work and at the same time convey the maximum amount of information within the smallest possible compass. All those enumerated below (samples of which follow) relate directly to work connected with the great branch of the service devoted to the Operation, Care and Maintenance of Cars.

C. D. 1. REQUISITION FOR AND INVOICE OF MATERIAL. (Used for two different purposes.)

C. D. 1-A. NOTICE OF MATERIAL ORDERED.

C. D. 1-B. RECORD OF MATERIAL ORDERED.

(The above three forms are written simultaneously by use of carbons.)

C. D. 2. FOREMAN'S ORDER FOR MATERIAL REQUIRED FOR IMMEDIATE USE.

C. D. 3. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF OIL AND WASTE USED IN CAR DEPARTMENT.

C. D. 4. MONTHLY STATEMENT OF COMPARATIVE QUANTITY AND COST OF OIL, WASTE AND TALLOW USED ON CARS.

C. D. 5. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF STEEL TIRED WHEELS APPLIED TO OR REMOVED FROM CARS.

C. D. 6. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CAST IRON WHEELS REMOVED FROM PASSENGER CARS.

C. D. 7. MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF THE GROSS NUMBER OF DEFECTIVE CAST IRON PASSENGER WHEELS REMOVED, AND THE NAMES OF THE MANUFACTURERS.

C. D. 8. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF WHEELS REMOVED FROM FREIGHT CARS.

C. D. 9. MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF THE GROSS NUMBER OF DEFECTIVE FREIGHT WHEELS REMOVED, AND THE NAMES OF THE MANUFACTURERS.

C. D. 10. MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF WHEELS THAT HAVE FAILED TO MEET THE GUARANTEES OF MANUFACTURERS.

C. D. 11. FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF STEEL TIRED CAR WHEELS TURNED.

C. D. 12. INSPECTOR'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF FLAT WHEELS UNDER PASSENGER CARS.

C. D. 13. INSPECTOR'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF HOT BOXES.

C. D. 14. FOREMAN'S WEEKLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CYLINDERS AND TRIPLE VALVES CLEANED AND OILED.

C. D. 15. CAR REPAIRER'S REPORT OF PARTICULARS OF SPECIAL REPAIRS MADE ALONG THE LINE.

C. D. 15¼. INSPECTOR'S "BAD ORDER" CARD—TO BE ATTACHED TO CARS NEEDING REPAIRS.

C. D. 16. FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CARS DAMAGED IN SWITCHING.

C. D. 17. FOREMAN'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CONDEMNED AND WORNOUT CARS.

C. D. 18. REPORT OF SUPERINTENDENT OF CAR DEPARTMENT TO YARD MASTER OF CARS READY FOR SERVICE IN REPAIR YARD.

C. D. 19. REPAIR YARD FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CARS IN REPAIR YARD READY FOR SERVICE, NOT INCLUDING FOREIGN CARS.

C. D. 20. REPAIR YARD FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF FOREIGN CARS IN REPAIR YARD READY FOR SERVICE.

C. D. 21. DAILY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT TO CAR SERVICE AGENT OF FREIGHT CARS RECEIVED FOR REPAIRS, AND CARS REPAIRED AND READY FOR SERVICE.

C. D. 22. REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF NEW EQUIPMENT RECEIVED.

C. D. 23. WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CARS DESTROYED.

C. D. 24. REPAIR YARD FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF REPAIRED AND BAD ORDER CARS ON HAND.

C. D. 25. DAILY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF REPAIRED AND BAD ORDER CARS ON HAND.

C. D. 26. SEMI-WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PASSENGER AND FREIGHT CARS TO BE REPAIRED OR REBUILT.

C. D. 27. WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT TO CAR SERVICE AGENT OF PARTICULARS OF PASSENGER CARS TO BE REPAIRED OR REBUILT.

C. D. 28. MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF PASSENGER CARS REPAIRED AND REPAINTED.

C. D. 29. FOREMAN'S WEEKLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF REPAIRS MADE ON FREIGHT CARS.

C. D. 30. WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF REPAIRS MADE ON FREIGHT CARS AT VARIOUS POINTS.

C. D. 31. SHOP FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MATERIAL USED AND LABOR PERFORMED ON REPAIRS OF SLEEPING CARS.

C. D. 32. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF SLEEPING CARS CLEANED.

C. D. 33. MONTHLY SUMMARY OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULAR SLEEPING CARS CLEANED ON EACH DAY OF THE MONTH.

C. D. 34. INSPECTOR'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF PASSENGER CARS RECEIVED FROM AND DELIVERED TO FOREIGN LINES.

C. D. 35. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MATERIAL USED AND LABOR PERFORMED ON REPAIRS OF PASSENGER EQUIPMENT IN JOINT SERVICE.

C. D. 36. FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF AMOUNT OF GAS SUPPLIED TO CARS.

C. D. 37. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF OPERATION OF PINTSCH GAS PLANT.

C. D. 38. WORKMAN'S DAILY RECORD OF DISTRIBUTION OF LABOR ON MANUFACTURED MATERIAL.

C. D. 39. WORKMAN'S DAILY REPORT OF DISTRIBUTION OF SHOP LABOR.

C. D. 40. FOREMAN'S REPORT OF PIECE WORK PERFORMED BY EACH EMPLOYE.

C. D. 41. GENERAL TIME BOOK; PARTICULARS OF HOURS WORKED BY EACH MAN; RATE OF PAY; WAGES; AND ON WHAT LABOR WAS EXPENDED.

C. D. 42. FOREMAN'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF OVERTIME ALLOWED.

C. D. 43. FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MEN HIRED AND DISMISSED.

C. D. 44. FORM OF APPLICATION (IN DUPLICATE) FOR EMPLOYMENT.

C. D. 45. FORM OF REFERENCE BLANK TO BE USED IN INVESTIGATING THE RECORD OF APPLICANTS FOR EMPLOYMENT.

C. D. 46. FORM OF BLANK USED BY SUPERINTENDENT OF CAR DEPARTMENT IN ADVISING FOREMEN AND OTHERS OF PERSONS ELIGIBLE FOR EMPLOYMENT.

C. D. 47. MASTER CAR BUILDERS' DEFECT CARD.

C. D. 48. INSPECTOR'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MASTER CAR BUILDERS' DEFECT CARDS ISSUED.

C. D. 49. REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF REPAIRS TO FOREIGN CARS ACCOUNT MASTER CAR BUILDERS' DEFECT CARDS.

C. D. 50. MASTER CAR BUILDERS' REPAIR CARD.

C. D. 51. REPORT OF JOURNAL BEARINGS, AIR BRAKE HOSE AND KNUCKLES APPLIED TO FOREIGN FREIGHT CARS BY TRAINMEN.

C. D. 52. FOREMAN'S REPORT (IN DUPLICATE) TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF WHEELS REMOVED FROM AND APPLIED TO FOREIGN CARS.

C. D. 53. BILL AGAINST INDIVIDUALS, FIRMS AND CORPORATIONS.

C. D. 54. JOINT EVIDENCE CARD.

C. D. 55. SHOP FOREMAN'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF BRAKES, TRUCKS, ETC., UNDER PASSENGER CARS RECEIVING REPAIRS.

C. D. 56. RECORD OF SUPERINTENDENT OF CAR DEPARTMENT OF PASSENGER CARS.

C. D. 57. RECORD OF SUPERINTENDENT OF CAR DEPARTMENT OF FREIGHT CARS.

C. D. 58. THE "A" CARD.—INSPECTOR'S NOTICE TO BE ATTACHED TO CARS NEEDING LIGHT REPAIRS.

C. D. 59. THE "B" CARD.—INSPECTOR'S NOTICE TO BE ATTACHED TO CARS NEEDING MEDIUM REPAIRS.

C. D. 60. THE "C" CARD.—INSPECTOR'S NOTICE TO BE ATTACHED TO CARS NEEDING HEAVY REPAIRS.

C. D. 61. INSPECTOR'S NOTICE ("O. K. CARD") TO BE ATTACHED TO CARS READY FOR SERVICE.

C. D. 62. INSPECTOR'S CARD FOR FREIGHT CARS EQUIPPED WITH OIL HEATERS.

C. D. 63. INSPECTOR'S CARD FOR CARS LOADED WITH INFLAMMABLE MATERIAL.

C. D. 64. HOME ROUTE CARD.

C. D. 65. PENALTY CARD.

C. D. 66. REPORT OF INSPECTION OF CARS AFTER AN ACCIDENT TO EMPLOYES OR OTHERS.

C. D. 67. DISTRIBUTION BLANK FOR MATERIAL USED.

C. D. 68. DISTRIBUTION BLANK FOR LABOR PERFORMED.

REQUISITION FOR AND INVOICE OF MATERIAL.	C. D. Form 1.
NOTICE OF MATERIAL ORDERED.	C. D. Form 1—A.
RECORD OF MATERIAL ORDERED.	C. D. Form 1—B.

These ingenious blanks are used in ordering and handling material, and serve a four-fold purpose. There are three forms as specified above, viz.: "Requisition for and Invoice of material" (used for two different purposes,) "Notice of material ordered," and "Record of material ordered."

With the use of carbon sheets these forms are written simultaneously, thus saving time and clerical labor.

The first form, No. 1 is sent to the official to whom it is addressed (and is afterwards used as an Invoice); the second is sent to the party who is to receive the material; and the third is retained for an office record.

The three forms (illustrated herein) are numbered respectively "C. D. 1," "C. D. 1—A," and "C. D. 1—B."

C. D. Form 1.

REQUISITION FOR AND INVOICE OF MATERIAL.

_____ 19___

_____ Requisition No._____

_____

Dear Sir:—Requisition is hereby made for the Material called for below.

Please send without delay to_____ at_____

and send the Invoice to_____ at_____

Certified to_____ Date,_____ 19___ | _____ Date,_____ 19___

Approved:

Certified to_____ Date,_____ 19___ | _____ Date,_____ 19___

NOTE.—This blank should be used in ordering material—the quantity "Now on hand", "Due on previous requisitions" and "Additional quantity wanted", and "Kind of material" being entered in the proper places by the person making the requisition.

Upon receipt of the requisition, properly approved, the official upon whom it is drawn will forward the material in accordance with the directions given above. A record of any items which cannot be supplied at once should be made, such material to be shipped as soon as possible, and the person making the requisition promptly notified of the probable date of shipment.

All items shipped should be invoiced (on this blank) to the proper person, as directed above, showing date and initials and number of car in which shipped, and quantity, price and amount in the spaces provided. Before forwarding the invoice, a tissue copy of it should be taken in a record book by the storekeeper, or official filling the requisition.

The person receiving the invoice should refer it to the person to whom the material was shipped—who should compare it with the record of material received, and in the event of error or omission, or in case there is any variation or deficiency, either in quality or quantity, the account must be corrected accordingly and the person filling up the invoice notified.

Quantity of Material			Kind of Material	Invoice of Material Shipped Date_____ No. Car_____ Initials_____		
Now on hand	Due on previous requisitions	Additional quantity wanted	In ordering material, please keep within space set apart below	uantity	Price	Amount

C. D. Form 1—A.

NOTICE OF MATERIAL ORDERED.

_____ 19___

_____ Requisition No. _____

The material called for below has been ordered from above named official to be sent to _____ at _____

and to be invoiced to _____ at _____

NOTE.—This notice will be sent to the person who is to receive the material, for his information and use in checking the material when received.

Signed: _____

Date, 19___

Quantity of Material			KIND OF MATERIAL	Material received			
Now on hand	Due on previous requisitions	Additional quantity wanted		Quantity	Date	Car	Invoice checked

C. D. Form 1-B.

RECORD OF MATERIAL ORDERED.

_____ 19____

_____ Requisition No. _____

Record of material ordered from above named official

to be sent to _____ at _____

and to be invoiced to _____ at _____

NOTE.—This copy will be retained as a record by the person making the Requisition and must be filed in consecutive order according to the number.

Signed; _____

_____ Date, _____ 19____

QUANTITY OF MATERIAL			KIND OF MATERIAL	INVOICE CHECKED		
Now on hand	Due on previous requisitions	Additional quantity wanted		Invoice from	Date of receipt	Date checked

C. D. Form 2.

Foreman's Order for Material Required for Immediate Use.

This form, or one answering a similar purpose, is used in ordering material from storehouses to be used in repairs and for current work in and about the shops, and repair sheds. The order should be dated and specify in detail the articles required, quantity, and the account to which the material is to be charged.

The "Weight," "Price," and "Amount" columns should not be filled in by the person ordering the material, as this is done by the storekeeper. The order will then furnish all the information necessary for writing up the accounts.

Orders for material to be used for making articles manufactured at the shops of a company, may be printed on colored paper to distinguish them readily from orders for material to be used for other purposes.

The stub attached to the order is to be filled up by the person ordering the material and retained as a record to be used in checking the material when received. Or, what would perhaps be preferable, a carbon may be used and a record in that way secured, thus saving the clerical work of writing up the stub. The practice of using a carbon sheet to secure a copy may be followed advantageously in every case in place of a stub or other similar form of record. It not only saves work but secures an absolutely perfect record.

C. D. Form 2.

FOREMAN'S ORDER FOR MATERIAL REQUIRED FOR IMMEDIATE USE.

NOTE.—This form is to be used in ordering supplies from the storehouse for immediate use. The weight, price and amount columns are to be left blank to be filled in by the storekeeper, after which the amount is charged, by him, on the distribution of material book to the proper account.

To_____ _____ Shop, _____ 19____
Storekeeper.

Please deliver to bearer the following articles, _____ Foreman.

Quantity.	Description of Article.	Weight.	Price.	Amount.

Chargeable to_____

C. D. Form 3.

Foreman's Monthly Report to Superintendent of Car Department of Oil and Waste Used in Car Department.

This report shows the amount of oil and waste used during the month at each distributing point, for various purposes.

In addition to affording the Superintendent of the Car Department valuable information, it is also used in compiling the monthly oil and waste report.

It is the practice of railway companies to scrutinize the consumption of oil and other lubricants with the utmost watchfulness, and to enforce, in every way possible, economy and approved practices in their care and use. This report is one of the means of accomplishing this.

C. D. Form 3.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF OIL AND WASTE USED IN CAR DEPARTMENT.

At _____ Station, during the month of _____, 19____

NOTE.—This statement is to be compiled promptly at the end of the month by the foreman at each point where oil and waste are disbursed and forwarded to the superintendent of car department. The amount "on hand last day of month" should equal the amount "on hand last report" plus the amount "received during current month" after deducting amount "used during the current month" for the purposes specified.

KIND OF LUBRICANT	ON HAND LAST REPORT	Received during current month	TOTAL	USED DURING CURRENT MONTH									ON HAND LAST DAY OF MONTH
				On sleeping cars	On other pass'r. cars	Delivered to pass'r. trainmen on orders	On freight cars	Delivered to freight trainmen on orders	On gravel construct. and hand cars	Delivered to engines on orders	For other purposes	TOTAL	
Car oil													
Special coach oil													
Woolen waste													
Cotton waste													

C. D. Form 4.

MONTHLY STATEMENT OF COMPARATIVE QUANTITY AND COST OF OIL, WASTE AND TALLOW USED ON CARS.

NOTE.—This interesting and valuable statement is compiled from the returns of foremen (C. D. 3). It should be made as soon after the close of the month as practicable and forwarded to the various officers interested in the valuable information it furnishes.

The blank may also be used in compiling similar information for a year or any number of months grouped together, for which comparisons are desired.

The various columns of the form explain their uses respectively and the importance of the information conveyed.

C. D. Form 4.

MONTHLY STATEMENT OF COMPARATIVE QUANTITY AND COST OF OIL, WASTE AND TALLOW USED ON CARS.

PASSENGER CARS.

	NUMBER OF MILES	NUMBER OF		MILES RUN TO ONE		COST PER 1000 MLS. FOR	
		Gals. oil	Lbs. waste	Gal. oil	Lb. waste	Oil	Waste
---- *19*							
---- *19*							
Increase,							
Decrease,							

FREIGHT CARS.

	NUMBER OF MILES	NUMBER OF		MILES RUN TO ONE		COST PER 1000 MLS. FOR	
		Gals. oil	Lbs. waste	Gal. oil	Lb. waste	Oil	Waste
---- *19*							
---- *19*							
Increase,							
Decrease,							

PASSENGER CARS.

ITEMS	----------19.--		----------19.--		INCREASE		DECREASE	
	Amount	Cost	Amount	Cost	Amount	Cost.	Amount	Cost
Tallow,								
Oil,								
Waste,								

FREIGHT CARS.

ITEMS	----------19.--		----------19.--		INCREASE		DECREASE	
	Amount	Cost	Amount	Cost	Amount	Cost.	Amount	Cost
Oil,								
Waste,								

TOTAL, 19
" 19

In....., 19 , Car Oil was $ per gallon; Waste $ and Tallow $ per lb.
In....., 19 , Car Oil was $ per gallon; Waste $ and Tallow $ per lb.

C. D. Form 5.

Foreman's Monthly Report to Superintendent of Car Department of Particulars of Steel Tired Wheels Applied to or Removed From Cars.

The purpose of this report is to secure a record in the office of the Superintendent of Car Department of the duration of service of steel tired wheels.

When wheels are removed it is important that the actual cause of removal should be accurately given.

Particulars of wheels applied must also be carefully shown in this report in accordance with the requirements of the blank.

In this way the records will always show the particulars of service of every steel tired wheel in use.

C. D. Form 5.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF STEEL TIRED WHEELS APPLIED TO OR REMOVED FROM CARS.

At_____shops. For the month of_____19____

NOTE.—This report must be forwarded on the first day of the month to the Superintendent of Car Department and must include all steel tired car wheels that have been exchanged during the preceding month showing each wheel separately.

WHEELS REMOVED								WHEELS APPLIED		
DATE	CAR			Size of wheels	MAKERS	Serial letter and number of tires	CAUSE OF REMOVAL	Size of wheels	MAKERS	Serial letter and number of tires
	Initials	Number	Kind							

C. D. Form 6.

Foreman's Monthly Report to Superintendent of Car Department of Particulars of Cast Iron Wheels Removed From Passenger Cars.

The value of car wheels is determined by the work they perform—the load they carry and the number of miles they run. Many of the wheels sold to railway companies are guaranteed (save from certain specified causes of failure) for specified periods, or, rather—specifically—for a certain number of miles.

In order to test the relative worth of wheels, and also to see that guarantees are fulfilled it is necessary to keep an accurate record of every wheel, the date it was put in service, when removed, cause of the latter, mileage made, and, incidentally, the availability of wheel for use in freight service.

The accompanying form is intended to afford this data. The information is afterwards used by the Superintendent of Car Department in generalizing the service so far as the use of cast iron wheels is concerned, as see form C. D. 7.

C. D. Form 6.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CAST IRON WHEELS REMOVED FROM PASSENGER CARS.

At_____Shops. During the month of_____19____

NOTE.—A report (on this form) is to be sent to the superintendent of car department on the first day of each month showing every cast iron wheel removed from passenger cars during the preceding month. In reporting defective wheels care must be taken to designate defects accurately: whether shelled out on tread; seams in tread; comby; worn hollow, flat from sliding; sharp flange; burst (*i. e.*, cracked from axle out); cracked inside or outside plate; broken flange or rim; etc. Special care should also be taken to state whether or not wheels can be used in freight service.

CAR		SIZE OF WHEEL	MAKER	DATE			CAUSE OF REMOVAL	Condemned or can be used in freight service	This column is to be left blank for the use of Supt. Car Dept. to enter the mileage made by wheels.
NO.	CLASS			CAST	APPLIED	REMOVED			MILEAGE

C. D. Form 7.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF THE GROSS NUMBER OF DEFECTIVE CAST IRON PASSENGER WHEELS REMOVED AND THE NAMES OF THE MANUFACTURERS.

This form is used for compiling, for the whole road, information contained in form C. D. 6. The purpose as therein explained is to ascertain the service the wheels have performed; by whom wheels were made; and the relative worth of wheels.

C. D. Form 7.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF THE GROSS NUMBER OF DEFECTIVE CAST IRON PASSENGER WHEELS REMOVED AND THE NAMES OF THE MANUFACTURERS.

For the whole road, for the month of_____19____

NOTE.—This statement is compiled by the superintendent of car department and is sent to the officials interested as soon after the first of the month as the information can be obtained.

MAKER'S NAME	Wheels removed on account of sliding.		Wheels removed on account of sharp flanges.		Defective wheels removed for all other causes		Total number of wheels removed for all causes.		No. of wheels held for exchange that did not make guarantee.
	No. of wheels	Average mileage	No. of wheels	Average mileage	No. of wheels	Average mileage	No. of wheels	Average mileage	
TOTALS									

C. D. Form 8.

Foreman's Monthly Report to Superintendent of Car Department of Particulars of Wheels Removed From Freight Cars.

The purpose of this report is to obtain a record of the number of wheels removed on account of defects specified on the form, and the length of service of the wheels; this for comparison month by month and year by year to ascertain improvements and deteriorations; also for computation of length of service in order to ascertain if the wheels have fulfilled the guarantees of makers.

Slid flat and sharp flange wheels, it is to be noted, do not usually come within the guarantees, as these defects are commonly caused by conditions for which the railway company is responsible and wheelmakers therefore refuse to include such defects in their guarantees.

C. D. Form 8.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF WHEELS REMOVED FROM FREIGHT CARS

At_____Shops during the month of_____19____

NOTE.—This report is to be sent to the superintendent of car department on the first day of each month for all wheels removed from freight cars during the preceding month. In reporting defective wheels care must be taken to designate defects accurately: whether shelled out on tread; seams in tread; comby; worn hollow; flat from sliding; sharp flange; burst (*i. e.*, cracked from axle out); cracked inside or outside plate; broken flange or rim, etc., etc. In cases where only one of the wheels on an axle is defective, the defective wheel only should be reported.

CAR			Size of wheel	Maker	DATE			WHERE REMOVED	Length of service	CAUSE OF REMOVAL
Number	Initial	Kind			CAST	APPLIED	REMOVED			

C. D. Form 9.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF THE GROSS NUMBER OF DEFECTIVE FREIGHT WHEELS REMOVED AND THE NAMES OF THE MANUFACTURERS.

This form is used for compiling for the system, the information contained in form C. D. 8. The purpose is to sum up the service the wheels have performed; names of makers; and the comparative worth of different wheels.

C. D. Form 9.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF THE GROSS NUMBER OF DEFECTIVE FREIGHT WHEELS REMOVED, AND THE NAMES OF THE MANUFACTURERS.

For the whole road, for the month of_____ 19____

NOTE.—This summary is compiled for the whole road by the superintendent of car department from form 8, and is sent to the officials interested as soon after the first of the following month as the information can be obtained.

MAKER'S NAME	Wheels removed on account of sliding.			Wheels removed on account of sharp flanges.			Wheels removed on account of other defects.			Total number of wheels removed for all causes.			No. of wheels that did not fulfill guarantees, held for exchange
	No. of wheels	Av. length of serv.		No. of wheels	Av. length of serv.		No. of wheels	Av. length of serv.		No. of wheels	Av. length of serv.		
		Years	Months		Years	Months		Years	Months		Years	Months	
TOTALS													

C. D. Form 10.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF WHEELS THAT HAVE FAILED TO MEET THE GUARANTEES OF MANUFACTURERS.

The purpose of this report is to furnish information for use in making bills against manufacturers for wheels that have failed to fulfill the guarantees. The items to be included are the deficiency for each wheel; also the cost of removing the wheel from the axle. The cost of removing passenger wheels is, we will say, 75c each; and of freight wheels say 50c each. The rate of deficiency is figured on the following basis: From the cost of the new wheel is deducted the amount received for the wheel as scrap. The difference represents the net cost of the wheel for the length of service for which it is guaranteed. The value of the full period being thus ascertained, the amount to be billed against the manufacturer for the deficiency is computed proportionately. For example: a 33 inch—750 lb. freight wheel is guaranteed, we will suppose, for seventy-two months.

Value of new wheel, - -	$8.00
Less scrap value, - - -	3.68
Net value, - - -	$4.32

$4.32 divided by 72 months equals 6 cents per month. If the wheel was in service thirty months, the difference between seventy-two months and thirty months (forty-two months) multiplied by .06c per month will give the amount of the deficiency, which is $2.52, the amount to be included in the bill, plus the 50c for removal; or a total of $3.02.

C. D. Form 10.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF WHEELS THAT HAVE FAILED TO MEET THE GUARANTEES OF MANUFACTURERS.

Defective wheels removed from_____cars during the month of_____19____

Manufactured by_____

NOTE.—This statement is compiled by the superintendent of car department and forwarded to the officials interested as soon after the first of the following month as the wheel mileage can be obtained. All cast iron passenger wheels failing to make their mileage guarantee, and all freight wheels failing to make their time guarantee are included in this report. The actual service for each wheel that has failed should be shown and bill made by the proper officer against the manufacturer for the total deficiency.

CAR		No. of wheels	Size	Wght.	Kind	DATE						GUARANTEE		SERVICE		DEFICIENCY		CAUSE OF REMOVAL
						CAST		APPLIED		REMOVED								
No.	Class					Mo.	Yr.	Mo.	Yr.	Mo.	Yr.	Mos.	Mileage	Mos.	Mileage	Mos.	Mileage	

C. D. Form 11.

FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF STEEL TIRED CAR WHEELS TURNED.

This form is filled up partly by the shop foreman and partly by the superintendent. Its purpose is to enable the Superintendent of Car Department to keep a record in his office of each steel tired wheel turned. There is usually no guarantee on steel tired wheels, but if they prove defective within an unreasonably short time the makers will, as a rule, allow a credit for the defective wheel when exchanged for a new one.

FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF STEEL TIRED CAR WHEELS TURNED.

At_____Shop. Date_____19____

NOTE.—This report should be made daily to the superintendent of car department by the foreman at shop where steel tired car wheels are turned.

REPORT OF FOREMAN					THIS SPACE IS TO BE LEFT BLANK FOR USE OF SUPT. CAR DEPT.		
Size of wheel	MAKE.	Serial letter and number of tire	Thickness after turning	Amount reduced	Mileage since tire was last turned	Reduction in diameter of wheel	REMARKS

C. D. Form 12.

INSPECTOR'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF FLAT WHEELS UNDER PASSENGER CARS.

One object of this report is to locate for subsequent investigation any carelessness that may exist in the use of air brakes. After being scrutinized by the Superintendent of Car Department the report is forwarded to the General Air Brake Instructor for investigation.

The name of the road furnishing "defect" card, (when there are slid flat wheels under cars delivered by another company) shows against whom bill is to be rendered for wheels that are applied in place of those that are defective.

C. D. Form 12.

INSPECTOR'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF FLAT WHEELS UNDER PASSENGER CARS.

At_____Station. Date_____19____

NOTE.—This report is to be made to the superintendent of car department by the car wheel inspector immediately upon discovery of a flat wheel. The inspector should, however, be governed by the following conditions in the removal of flat wheels: If the spots are large enough to impair the safety of the wheel the wheel should be removed; or if they cause annoyance from riding roughly; or if they are so large they will not wear off.

When there are flat wheels under cars received from a foreign company the inspector should see that "defect" cards are furnished by such company.

CAR			TRAIN NO.	ENG. NO.	NO. PAIRS WHEELS SLID	SIZE OF SPOTS	NEW OR OLD SPOTS	STEEL TIRED OR CAST WHEELS	NAME OF ROAD FURNISHING DEFECT CARD	NO. PAIRS WHEELS REMOVED
INITIALS	CLASS	NAME or NO.								

C. D. Form 13.

INSPECTOR'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF HOT BOXES.

One object of this report is to enable the superintendent to investigate the conditions under which hot boxes occur; and through such investigation prevent future like occurrences when practicable. In regard to the proviso that reports need not be made if no delay to train occurs, practices differ, some companies requiring a report in practically every case.

C. D. Form 13.

INSPECTOR'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF HOT BOXES.

At_____ Date_____ 19____

NOTE.—This report must be forwarded immediately by the inspector to the superintendent of car department whenever a delay is caused by hot boxes. The actual time of delay, in minutes, must be shown. When hot boxes occur, but no delay to train is caused, no report need be made.

NO. OF TRAIN	NAME OF CONDUCTOR	CAR		NO. OF HOT BOXES	TIME DELAYED	CAUSE OF HOT BOX	REMARKS
		INITIAL	NUMBER				
					Minutes		
					"		
					"		
					"		
					"		
					"		

C. D. Form 14.

FOREMAN'S WEEKLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CYLINDERS AND TRIPLE VALVES CLEANED AND OILED.

The purpose of this report is to advise the Superintendent of Car Department of work performed in cleaning cylinders and triple valves of air brake equipment and testing and adjusting air brakes.

Comparisons are also made from time to time to ascertain at what points this class of work has increased or decreased.

A record is kept by the superintendent of each car cleaned in order that the work may be scrutinized in detail and due efficiency maintained.

C. D. Form 14.

FOREMAN'S WEEKLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CYLINDERS AND TRIPLE VALVES CLEANED AND OILED.

At_____Station. For the week ending_____19___

NOTE.—A report of this nature must be forwarded to the superintendent of car department by the foreman for all cylinders and triple valves cleaned and oiled, and air brakes tested and adjusted.

CAR		Date of previous cleaning as stenciled
Number	Initial	

C. D. Form 15.
(See form 15¼ below.)

CAR REPAIRER'S REPORT OF PARTICULARS OF SPECIAL REPAIRS MADE ALONG THE LINE.

NOTE.—A blank of this form is to be attached to the order directing a car repairer to go out on the road to make repairs.

It is intended to furnish the information necessary to a proper supervision over the doings of such car repairers.

Date.	Time consumed in going and coming.	Time consumed in doing the work.	Could the car have been forwarded by being chained?

NATURE OF REPAIRS MADE.

C. D. Form 15¼.

INSPECTOR'S "BAD ORDER" CARD—TO BE ATTACHED TO CARS NEEDING REPAIRS.

NOTE.—In case cars are damaged along the line or at points where no provision is made for repairing, it is desirable to get them to repair yards where the work can be done effectively and economically rather than to send repairers out on the line especially to do the work.

This card (printed on heavy red card-board in conspicuous type) is used more particularly along the line than at shops, where other provision is made. It is attached to the sides of the cars to prevent cars being loaded, and to designate the point to which the cars are to be sent for repairs.

BAD ORDER

To be Repaired at_____

_____Inspector.

C. D. Form 16.

FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CARS DAMAGED IN SWITCHING.

At_____Station. Date_____19___.

NOTE.—This report is to be sent to the superintendent of car department and should include an account of all cars damaged in switching or otherwise at stations.

Date.	CAR.		Description of Damage.	Cause of Damage.
	Initial.	No.		

The purpose of this report is to advise the superintendent of car department daily of all cars damaged as stated; this for purposes of record and that corrective measures may be enforced when the damage is caused by carelessness or neglect.

C. D. Form 17.

FOREMAN'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CONDEMNED AND WORN OUT CARS.

_____ Station. Date _____ 19____

NOTE.—This form should be sent to the superintendent of car department whenever there are damaged and worn out cars to be reported. Care must be exercised in stating cause of the condition of the cars. In cases of cars being wrecked the date and place of wreck should be given. The superintendent of car department will direct disposition to be made of cars.

REPORT OF FOREMAN						DISPOSITION TO BE MADE OF CARS (This column is to be left blank for use of superintendent car department)
Initial	Number	Class	Length	Age	Cause	

The purpose of this report is to keep the superintendent of car department advised of cars damaged or worn out, and to enable him to decide whether worn out cars should be repaired or destroyed. Cars reported on form C. D. 16 are not included herein except in those cases where the car is destroyed or condemned.

C. D. Form 18.

REPORT OF SUPERINTENDENT OF CAR DEPARTMENT TO YARD MASTER OF CARS READY FOR SERVICE IN REPAIR YARD.

At_____ Date_____ 19___ ___M.

NOTE.—This form is used by the superintendent of car department to notify the yard master of cars to be put in service that have been repaired and for which special disposition has been made. It is also sometimes used as a medium for ordering other cars (home and foreign) to be moved.

The following cars are now ready for service	Destination

C. D. Form 19.

REPAIR YARD FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF CARS IN REPAIR YARD READY FOR SERVICE, NOT INCLUDING FOREIGN CARS.

At_____ Date_____ 19____

NOTE.—This form should be used by the repair yard foreman at car shops to report to the superintendent of car department daily the number of each class of cars that have been repaired and are ready for service. The superintendent in turn advises the car service agent in order that he may make disposition of same.

Box	Cars	
Ice	"	
Furniture	"	
Stock	"	
Gondola	"	
Flat	"	
Beer	"	
Refrigerator	"	
Gravel	"	
Ore	"	
Way	"	
Raised Center	"	
Charcoal	"	
Hay	"	
Loads	"	
Cinder	"	
Coal Sides	"	
Vegetable	"	
Boarding	"	
Tool	"	
	Total,	

The object of this report is to keep the superintendent of car department and the car service agent advised of the number of the different classes of cars in repair yard ready for service so that the cars may be put into service with as little delay as possible. The total number in yard will be reported daily without reference to whether they have been reported before or not.

C. D. Form 20.

REPAIR YARD FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF FOREIGN CARS IN REPAIR YARD READY FOR SERVICE.

At_____ Date_____ 19___

NOTE.—This blank is to be used by the repair yard foreman to report to the superintendent of car department daily the number of foreign cars repaired and ready for service. He will in turn advise the car service agent in order that proper disposition of the same may be made without delay.

Car Nos.	Initial.	Class.	Destination.

C. D. Form 21.

DAILY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT TO CAR SERVICE AGENT OF FREIGHT CARS RECEIVED FOR REPAIRS AND CARS REPAIRED AND READY FOR SERVICE.

At_____ Date_____ 19___

NOTE.—This letter of advice should be made daily to the car service agent by the superintendent of car department. Its purpose is to keep the car service agent advised regarding freight cars set aside for repairs, and those that have been repaired and are ready for service.

CARS RECEIVED FOR REPAIRS		CARS REPLACED IN SERVICE	
Initials	Numbers	Initials	Numbers

C. D. Form 22.

REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF NEW EQUIPMENT RECEIVED.

At_____ Date_____ 19__

NOTE.—This report is to be made by the superintendent of car department to the proper official of new equipment received and the date when it will go into service.

	By whom built.	Class of equipment.	Initials and Numbers.	Date will go into service.

C. D. Form 23.

WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CARS DESTROYED.

This report is valuable to Operating officials and others as current information in regard to the car equipment. It is in fact a copy of the record kept in the office of the Superintendent of Car Department of the cars destroyed and the reason therefor during the period for which return is made. It is to be remembered in this connection that a historical record is kept of every car: its number, by whom made, when it entered the service, date of its destruction, and other particulars, as recounted elsewhere. This historical record, therefore, furnishes accurate information in regard to each car whether still in the service or broken up. And it is to this record that the officers go to find numbers for the new cars put in service to replace those that have been destroyed; and also to find the deficiencies that exist in the car equipment.

C. D. Form 22

WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF CARS DESTROYED.

For the week ending _____ 19___

NOTE:—A report of this nature is to be made weekly by the superintendent of car department to the proper officers giving an account of all cars destroyed.

Initial.	Class.	Number.	Length	Capacity.	When built.	DESTROYED.		Cause of destruction.	AGE.	
						At	Date.		Years.	Mos.

RECAPITULATION.

Class.	NUMBER.			AVERAGE AGE.		
	Age and decay.	Wreck and damage.	Total.	Age and decay.	Wreck and damage.	Total.

C. D. Form 24.

REPAIR YARD FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF REPAIRED AND BAD ORDER CARS ON HAND.

At_____ Date_____ 19__

NOTE.—This report should be made at the close of each day's work and sent to the superintendent of car department by all repair yard foremen. It should show the total number of bad order cars on hand needing heavy and light repairs and the number of cars on hand that have received such repairs. Aside from this the box cars are shown separately.

	Bad Order Cars		Cars repaired		Painted	Air Brakes Applied	Remarks
	Heavy repairs	Light repairs	Heavy repairs	Light repairs			
Total No. of cars of all kinds							
Total No. of box cars							

The object of this report is to keep the superintendent advised of the number of bad order and repaired cars on hand, not in service, and the amount of work to be done on the former; this with the object of taking such measures as may be necessary. It will be noticed that the number of cars is given in gross in the first instance, only box cars being particularized afterwards. It would, perhaps, add to the value of the report in some cases if each class of cars were specified instead of being bulked.

C. D. Form 25.

DAILY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF REPAIRED AND BAD ORDER CARS ON HAND.

Date_____ 19____

NOTE.—This report for the whole road is compiled daily by the superintendent of car department. It is a summary of form 24. A copy is sent by him to each of the officials interested in the movement of cars.

Place.	BAD ORDER CARS.		CARS REPAIRED.	
	Total of all cars.	Box cars.	Total of all cars.	Box cars.
Total,				

This report is a summary of form 24, and is made for the information of officers interested. It furnishes information regarding all cars on hand in bad order or that have been repaired and await service in the various repair yards of the company. The number of box cars is shown separately because of the great demand for that class of cars. It would, perhaps, add to the value of the report if each of the other classes of cars were similarly particularized. On one road coal cars might predominate; on another road, ore cars, and so on.

C. D. Form 26.

SEMI-WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PASSENGER AND FREIGHT CARS TO BE REPAIRED OR REBUILT.

This report is designed to keep those responsible directly or indirectly for car equipment (including the Superintendent of Car Department) advised of prospective work in connection with the work of repairing and rebuilding cars. This with the view of such intelligent co-operation as the expense involves and the needs of the service require. It is properly a summary of the whole road; or may be made for particular shops, as may be required.

C. D. Form 26.

SEMI-WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PASSENGER AND FREIGHT CARS TO BE REPAIRED OR REBUILT.

Date _____ 19

NOTE.—This report is made by the superintendent of car department to the operating officers interested in such matters.

Classification.	To be repaired.	To be rebuilt.	Remarks.
Passenger			
Dining			
Sleepers			
Beer			
Boarding			
Box			
Derrick			
Ditching			
Dump			
Excavator			
Flat			
Furniture			
Foreign			
Gondola			
Ore			
Pile driver			
Refrigerator			
Stock			
Way			
Totals			

C. D. Form 27.

WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT TO CAR SERVICE AGENT OF PARTICULARS OF PASSENGER CARS TO BE REPAIRED OR REBUILT.

At_____Shop. For the week ending_____19____

NOTE.—This report is made weekly to the car service agent by the superintendent of car department and keeps the former advised of cars temporarily withdrawn from service and when they will be reinstated.

Number.	Class.	Route in service.	Repairs needed.	DATE.	
				Received.	Expected out.

C. D. Form 28.

MONTHLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF PASSENGER CARS REPAIRED AND REPAINTED.

At_____. For the month of_____19____

NOTE.—This report is made by the superintendent of car department to the officials interested on the first day of the month.

CLASSIFICATION.	Light repairs.	General repairs; paint burned off and car repainted.	General repairs; repainted over old paint.	General repairs; paint touched up and car varnished.	TOTALS.
Buffet cars,					
Chair cars,					
Dining cars,					
Parlor cars,					
Sleeping cars,					
First-class passenger.					
Second-class passenger,					
Directors' and superintendents' cars,					
Combination passenger, baggage and mail,					
Combination passenger and baggage,					
Baggage and express cars,					
Postal cars,					
Milk cars,					
TOTALS,					

The object of this return is to keep those interested advised of the work in progress on passenger cars and the character of the repairs. Like all similar returns it also helps the management to determine as to the reasonableness of the pay-roll.

C. D. Form 29.

FOREMAN'S WEEKLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF REPAIRS MADE ON FREIGHT CARS.

At _____ shop. For week ending _____ 19___

NOTE.—A report of this form should be sent weekly to the superintendent of car department of repairs made to freight cars at the various shops and stations. It should show the total number of bad order cars received each day needing heavy and light repairs and the number of cars that have received such repairs. The information contained in this report is a summary of the daily report of like nature.

Date	Bad order cars received		Cars repaired		Painted	Air-brakes applied	REMARKS
	Heavy	Light	Heavy	Light			

C. D. Form 30.

WEEKLY REPORT OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF REPAIRS MADE ON FREIGHT CARS AT VARIOUS POINTS.

For the week ending_____ 19____

NOTE.—This summary is compiled weekly by the superintendent of car department from returns made to him on form C. D. 29. It is sent to the officials interested. It shows the total number of bad order cars received at the various shops and stations needing heavy and light repairs and the number of cars that have received such repairs. A report similar to this is made daily.

SHOP	BAD ORDER CARS RECEIVED		CARS REPAIRED		PAINTED	AIR BRAKES APPLIED	REMARKS
	Heavy	Light	Heavy	Light			

C. D. Form 31.

SHOP FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MATERIAL USED AND LABOR PERFORMED ON REPAIRS OF SLEEPING CARS.

At_____ During the month of_____ 19____

NOTE.—This report is to be sent to the superintendent of car department on the first day of the month and should show all material furnished and labor expended on sleeping cars, chargeable to the sleeping car company. From these reports the superintendent of car department makes bill against the sleeping car company.

CAR	DATE	LABOR EXCHANGING			Loading and unloading wheels	MISC'L LABOR		MISCELLANEOUS MATERIAL
		Wheels	Brasses	Brake Shoes				
TOTALS								

C. D. Form 32.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF SLEEPING CARS CLEANED.

At_____ During the month of_____ 19____

NOTE.—This report must be sent to the superintendent of car department by the foreman in charge of cleaning yards on the first day of the month. It is the basis of a charge against the sleeping car company for the service performed.

DATE.	NAME OF CAR.

C. D. Form 33.

MONTHLY SUMMARY OF SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULAR SLEEPING CARS CLEANED ON EACH DAY OF THE MONTH.

During the month of_____19____

NOTE.—This statement is compiled by the superintendent of car department from form C. D. 32 and affords the information necessary for making up the account against the sleeping car company for the service performed.

CARS	DATES																													Number of times cleaned
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

C. D. Form 34.

INSPECTOR'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF PASSENGER CARS RECEIVED FROM AND DELIVERED TO FOREIGN LINES.

At_____ Date_____ 19____.

NOTE.—A copy of this report should be sent daily to the superintendent of car department showing in detail the number of all passenger cars delivered to and received from foreign lines at connecting points. Special care should be taken to state fully the condition of each car upon its delivery and on its receipt as such information is valuable in determining the accountability of the respective companies for injuries to cars.

PASSENGER CARS DELIVERED					PASSENGER CARS RECEIVED				
TRAIN NO.	INITIAL	NAME OR NUMBER	TO WHAT COMPANY	DEFECTS	TRAIN NO.	INITIAL	NAME OR NUMBER	FROM WHAT COMPANY	DEFECTS

C. D. Form 35.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MATERIAL USED AND LABOR PERFORMED ON REPAIRS OF PASSENGER EQUIPMENT IN JOINT SERVICE

Running between_____and_____for the month of_____19____

NOTE.—Foremen at points where work is performed cleaning, inspecting and repairing cars in joint service must keep an accurate record of all labor and material expended on the cars in such service and report the same on this blank, sending it to the office of the superintendent of car department on the first day of each month. It must show the work performed on each car separately. Care must be exercised in making these reports, as bills are compiled from them against the company responsible for the labor and material expended. Foremen doing work on such cars must familiarize themselves with the accountability of the respective companies so that no mistake or omission may occur in rendering bills.

DATE	NUMBER OR NAME	INITIAL	CLASS	MISCELLANEOUS MATERIAL APPLIED	HOURS LABOR	INSPECTED	CLEANED	NO. OF OIL BOXES PACKED	REMARKS

C. D. Form 36.

FOREMAN'S DAILY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF AMOUNT OF GAS SUPPLIED TO CARS.

_____Station Date_____19____

NOTE.—This report is to be made to the superintendent of car department by yard foremen and should show the amount of gas charged in each car daily. The number of cubic feet capacity at one atmosphere multiplied by the number of atmospheres supplied will give the total number of cubic feet supplied.

Name or No. of car	HOLDERS			NO. OF ATMOSPHERES			Total No. of cubic feet supplied
	NO.	SIZE	No. cubic ft. capacity at one atmosphere	Before filling	After filling	SUPPLIED	

In those cases where cars are lighted with gas a report of this character is exacted in order that a record of consumption may be kept in the office of the superintendent of car department—or elsewhere, as may be required—of the amount of gas charged in each car daily. A report of this kind is necessary—as in cases where oil is used for lighting—not only to properly supervise the work but to furnish necessary information for apportioning the expense when cars are used jointly by two or more roads.

In charging a car the quantity of gas in each holder is first ascertained by means of a gauge showing the number of atmospheres pressure. The holders are then filled with gas until the pressure reaches the specified number of atmospheres (usually 10 atmos.) the difference between the two readings of the gauge showing the number of atmospheres supplied.

C. D. Form 37.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF OPERATION OF PINTSCH GAS PLANT.

Report of operation of Pintsch gas plant at.....for month ending..... 19..

NOTE.—This report is to be made to the superintendent of car department by the foreman in charge of the gas plant on the first day of the month.

Stock of gas on hand at close of last monthly report.....19.. ....cu. ft.

Reading of meter last monthly report..... .....cu. ft.

" " now..... ..... "

Gas made.... ....cu. ft

Gas to be accounted for..... ..... "

Gas on hand now:

Gas holder No. 1..... .....cu. ft.

" " 2..... ..... "

" " 3..... ..... "

" " 4..... ..... "

" " 5..... ..... "

" " 6..... ..... "

" " 7..... ..... "

" " 8..... ..... "

Total .... "

Gas burned in works .... "

" delivered to cars..... ..... "

Total gas accounted for..... .....cu. ft.

Gas lost by compression and leakage..... ..... "

Percentage of loss to amount made.....

GAS OIL REPORT.

Amount of oil consumed..... .....galls.

" " " per 1,000 cu. ft. of gas made..... ..... "

COST OF OPERATING.

Labor ..... $.....

Oil (for making gas) ....

Oil (for fuel)..... .....

Miscellaneous ....

Total..... $.....

Cost per 1,000 cu. ft. of gas made.....

Gas made to 1 gallon of oil.....cu. ft.

Total number of cars charged with gas during the month.....

Average number of cars charged with gas per day.....

C. D. Form 38.

WORKMAN'S DAILY RECORD OF DISTRIBUTION OF LABOR ON MANUFACTURED MATERIAL.

_____ 19____

Check No._____ Rate_____ Name_____

Occupation_____

DAILY DISTRIBUTION OF LABOR.

Hours worked	Pieces Completed	Order number worked on	Description of work	Machine number

Check No._____ C. D. Form 39.

Name_____ Date_____ 19___

WORKMAN'S DAILY REPORT OF DISTRIBUTION OF SHOP LABOR.

Passenger repairs	Freight cars	Work cars	Tools and machinery	Building repairs	Piece work	Miscellaneous (to be specified)	Total

Remarks _____

Examined_____

Foreman_____

This report must be made daily by each employe when not otherwise provided for and must show the number of hours engaged on each kind of work. After being approved by the foreman it is sent to the time-keeper to make the proper allowance of time. The report is further used in making the necessary charges on the distribution blanks against the accounts on which the labor was expended.

C. D. Form 40.

FOREMAN'S REPORT OF PIECE WORK PERFORMED BY EACH EMPLOYE.

Check No.....

Shop..... .....Shop,.....19.....

To.....

Please allow.....

occupation..... nature of work..... .....

.....

number of pieces.....rate per.....

.....

time engaged in above work from.....to.....

.....

Charge to..... .....

Approved:..... .....
Foreman.

This report is to be made to the foreman for each employe engaged on piece work. After being approved by the official in charge the report is sent to the time-keeper and accounting clerk to make the proper allowance of time and such other entries as are necessary. A carbon sheet should be used and the copy retained by the foreman for his record. This blank may be printed on colored paper, to designate it readily from other classes of labor.

C. D. Form 41.

GENERAL TIME BOOK; PARTICULARS OF HOURS WORKED BY EACH MAN; RATE OF PAY; WAGES; AND ON WHAT LABOR WAS EXPENDED.

Foremen having charge of men at points where there is no timekeeper should use this blank in recording the number of hours worked by such men separately, each day, and for distributing the time daily to the accounts upon which the labor was expended.

The sheets are eyeletted so that the pages may be bound in one book.

At the end of the month the total time worked during the month by each man should be summed up and entered in the proper column; also the total amount chargeable to each of the accounts upon which work has been performed. The book should then be certified to by the foreman and forwarded to the proper official, who will enter the time on the pay-roll and charge the labor to the proper accounts in the distribution book.

At shops this form is used by the timekeeper in entering the time of employes as shown on the three forms, viz: C. D. 38, C. D. 39, C. D. 40.

C. D. Form 41.

GENERAL TIME BOOK; PARTICULARS OF HOURS WORKED BY EACH MAN; RATE OF PAY; WAGES; AND ON WHAT LABOR WAS EXPENDED.

General time book of men employed at_____ in month of_____ 19___

	DAYS EMPLOYED																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

HOW EMPLOYED (Account to be charged)	Details of work by hours	Total no. hours worked	RATE	Amount chargeable to each account	Total amount wages	NAME	Employe's check number

C. D. Form 42.

FOREMAN'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF OVERTIME ALLOWED.

At_____ Date_____ 19____

NOTE.—This report must be sent at once to the superintendent of car department in all cases when overtime is allowed.

NAME	NATURE OF WORK	ACTUAL TIME	TIME ALLOWED	RATE	AMOUNT		AUTHORITY FOR WORK PERFORMED	REMARKS

The object of this report in part, as it is of all returns made to the superintendent and other responsible officers, is to enable them, through supervisory oversight, to judge of the reasonableness and merit of the expenditure, whether nominal, or extraordinary as in this case.

C. D. Form 43.

FOREMAN'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MEN HIRED AND DISMISSED.

At_____during the month of_____19____

NOTE.—This report is to be sent to the superintendent of car department by the foreman on the first day of the month for persons employed and dismissed during the previous month.

Names of men employed	Occupation	Rate

Names of men dismissed	Occupation	Cause of dismissal

As the superintendent is responsible for the organization and management of his department it is necessary that he should keep himself advised of the force employed, how occupied and rate paid—and that no injustice may be done any one he requires that the reason for the dismissal of each employe shall be specifically stated. Information of this nature is also required—and in detail—by companies having a pension system.

FORM OF APPLICATION (IN DUPLICATE) FOR EMPLOYMENT. C. D. Form 44.

NOTE.—This is one of the usual forms of application made by those seeking work of a hazardous nature, such as that about shops and construction work. It is passed upon directly by the employer or head of the department, in the case of corporations. It is distinctly understood that before the applicant can enter permanently into service or be regarded as a regular employe, the written approval of the employer or head of the department must be obtained.

Full name and address of applicant.

_____

_____

_____

Dated at_____19___

Place of birth_____Date of birth_____18___Age_____

Nationality_____Married or single_____

What position do you desire ? _____

What experience have you had in that line?_____

By whom are you employed at present ?_____

No._____ Street_____Town or City_____State of _____

In what capacity are you employed at present ?_____

Is any one dependent on you for support? If so, give particulars._____

_____

Give particulars and amount of any debt you owe or liability you are under_____

Do you drink malt or spirituous liquors?_____What is the condition of your general health?_____

Are you able-bodied?_____Is your hearing good?_____

Is your eyesight good?_____Are you able to distinguish colors?_____

Have you ever been injured? If so, when, where, how and extent of injury._____

_____

Name of last school attended_____

Did you graduate?_____If not, how long did you attend?_____

State below where and how you have been employed during the last five years making no omission in the record:

TIME OF SERVICE.				NAME OF EMPLOYER. (If the employer was a corporation, give name of such corporation: also name and PRESENT address of official under whom you served.)	PLACE WHERE EMPLOYED.	NATURE OF EMPLOYMENT. (How employed.)	WHY DID YOU LEAVE?
From		To					
Month.	Year.	Month.	Year.				

C. D. Form 44. Continued.

Have you ever been discharged or suspended from any situation? If so, state when, where and under what conditions? _____

Have you ever been in the employ of this Company before? If so, state when, where, in what capacity, and cause of leaving. _____

Give below the name, address and occupation of your parents and other relatives. If any are deceased, give other nearest relatives:

NAME.	OCCUPATION.	ADDRESS.
Father:		
Mother:		
NEAREST MALE RELATIVE On Father's side:		
On Mother's side:		

Are any of your relatives in the employ of this Company? If so, state who they are, and in what capacity employed.

Will you faithfully perform such duties as may be legally required of you by your superiors? _____

In consideration of my employment by the _____ company, I agree that whenever I shall sustain any personal injury while in the service of said company I will allow its surgeons and any medical examiners it may select to examine my person and body as often as the company may deem necessary in respect to the alleged injury, and I hereby waive all objections to such surgeons or medical examiners testifying whenever called upon by the company, and I further agree that my refusal to allow any such examination to be made or testimony to be given shall be a bar to the institution or prosecution of any action on account of such injury; and any action pending at the time of such refusal shall at once abate in consequence thereof.

In further consideration of such employment I agree that if, while in the service of said company, I sustain any personal injury for which I shall or may make claim against the company for damages I will, within thirty days after receiving such injury, give notice in writing of such claim to the general claim agent of said company; which notice shall state the time, place, manner and cause of my being injured and the nature and extent of my injuries, and the claim made therefor, to the end that such claim may be fully, fairly and promptly investigated, and my failure to give written notice of such claim in the manner and within the time aforesaid, shall be a bar to the institution of any suit on account of such injuries.

I certify that my answers to the above questions are true, and agree that they shall be the basis of my employment.

Signature of applicant _____

C. D. Form 45.

FORM OF REFERENCE BLANK USED IN INVESTIGATING THE RECORD OF APPLICANTS FOR EMPLOYMENT.

_____ 19___

Mr._____

_____

_____

Dear Sir:—

_____ has made application for position as_____ and states that he was employed by you in the capacity of_____ from_____ 19___ to_____ 19___.

If consistent will you kindly inform me as to the authenticity of his statement; also state if in your judgment he would be able to perform the duties of_____ for which position he is an applicant.

Kindly inform me as to the cause of his leaving your service, noting your reply on the back hereof.

Any information given will be treated as strictly confidential.

Yours respectfully,

_____

It is the custom of all fidelity and surety companies as it is of all prudent employers of labor, to inquire carefully into the antecedents of those seeking employment. In no other way can they escape being made the unconscious and pitiful victims of designing adventurers. The above form is exceedingly brief and may be enlarged or modified to meet the particular views of the employer making the inquiry.

C. D. Form 46.

FORM OF BLANK USED BY SUPERINTENDENT OF CAR DEPARTMENT IN ADVISING FOREMEN AND OTHERS OF PERSONS ELIGIBLE FOR EMPLOYMENT.

_____ 19____

Mr._____

_____ Foreman.

Dear Sir:—

The bearer_____ has made application for position as_____. If you are in need of a man in this department of the service you may employ him, after satisfying yourself as to his ability and other needed qualities.

_____

REPLY.

_____ 19____

Referring to the above, this is to certify that I have employed / not employed

_____ as _____

this day, and rated him at_____ per hour.

_____

NOTE.—If the person was not employed return the form simply striking out the word "employed." If employed the form should be filled up striking out the words "not employed." If engaged in shop work give name and number of shop.

C. D. Form 47.

Master Car Builder's Defect Card.

The rules of the Master Car Builders (Superintendents of Car Department) require that the "Defect Card" (printed on heavy cardboard) shall be printed in red ink—on both sides—and the information written in on both sides of the card in ink or with indelible pencil. The card is issued by the company on whose line the car was damaged, and authorizes any company making the repairs to make a bill for such repairs against the company issuing the card. The card should specify in full each item for which a charge may be made, indicating the place on the car where defect exists. Under the Master Car Builders' regulations the ends of the car are designated as "A" and "B"; the "B" end being that upon which the brake staff is located; the opposite end being "A." In case there are two brake staffs on the same car the end toward which the cylinder push rod travels is known as the "B" end. The defect card must be securely attached to the car with four tacks and must be placed on the outside face of the intermediate sill between the cross tie timbers. In the event a defect card is detached or becomes illegible, it is understood that a duplicate will be forwarded upon application.

Send bill for repairs account of this card to superintendent of car department of the company issuing same.

C. D. Form 47.

MASTER CAR BUILDER'S DEFECT CARD.

.....RAILWAY COMPANY.

Car No.....date.....19..

Initials.....line.....

will be received at any point on this company's line with the following defects:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....Inspector at.....

This stub is to be retained by the person issuing the card.

Date.....19..

Initials.....

No.....

DEFECTS.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Name.....

Inspector at.....

C. D. Form 48.

INSPECTOR'S MONTHLY REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF MASTER CAR BUILDERS' DEFECT CARDS ISSUED.

At_____ During the month of_____ 19____

NOTE.—This report is to be sent to the superintendent of car department on the first day of the month following that in which cards were issued.

Report of inspector					Leave these columns blank for use of superintendent of car department			
Date	Car			Defects	Bill rendered on account of defect			
	Initials	No.	Class		By what company	Date	No. of bill	Remarks

This report is necessary for the purpose of auditing bills rendered against the company on account of defect cards issued by it; also for supervisory purposes and to prevent duplication of charges.

C. D. Form 49.

REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF REPAIRS TO FOREIGN CARS ACCOUNT MASTER CAR BUILDERS' DEFECT CARDS.

Report of repairs made at.....Station. .....19.....

on.....car; Class.....; No.....; for which bill is to be rendered.

Authority for bill { M. C. B. Defect Card issued by.....at..... .....19....
Rule No..... .....Foreman.

NOTE.—The authority for making bill and all papers pertaining to same should be attached to this report and forwarded to the superintendent of car department the same day repairs are completed. In case wheels are changed, for which (under M. C. B. rules) bill is to be rendered, the report of wheels applied to foreign cars (C. D. 52) should accompany this report in order that bill may be made at once.

DESCRIPTION OF REPAIRS AND AMOUNT OF MATERIAL USED.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ Labor_____hours.

Credits : _____

_____

_____

The information contained in this report forms the basis of the bill against the company responsible for the expenditure.

C. D. Form 50.

Master Car Builders' Repair Card.

When repairs are made to a foreign car this card (printed on heavy cardboard) is tacked to the outside of the intermediate sill between the cross tie timbers. It should specify the date, place, extent and reason for the repairs being made and by what company. The location of the repaired part should also be specified on the card. The stub should be sent to the Superintendent of Car Department for his use in making bill against the company responsible and it is to be attached by him to such bill. In those cases where no bill is to be rendered, the stub must be forwarded before the 20th of the succeeding month, with the words "No bill" written across its face. In case no charge is to be made for the repairs the words "No bill" should also be written across the face of the repair card.

The information (in each case the same) should be filled in on both sides of the card with ink or indelible pencil. In case of repair cards being lost or becoming illegible duplicate cards are furnished upon application.

When card is applied to car send this stub at once to superintendent of car department retaining the duplicate stub attached hereto.

MASTER CAR BUILDERS' REPAIR CARD STUB.

_____Ry. Date_____19___

REPAIRS MADE.

[NOTE.—The reason for the repairs is written on the reverse side of this stub.]

Repaired at_____Shop.

_____ Inspector.

Car No._____Initials_____

(OVER)

C. D. Form 50.

MASTER CAR BUILDERS' REPAIR CARD.

_____Ry. Co. Date_____19___

REPAIRS MADE.	WHY MADE.

Repaired at_____Shop_____Inspector.

Car No._____ Initials_____

NOTE.—The back of this card is the same as the above.

C. D. Form 51.

STUB TO BE RETAINED BY MAKER OF REPORT.

Date_____19___

Train No. _____

Applied _____

Cause of removal_____

_____

_____

Car No._____

Initials_____

[In place of writing up the stub, a facsimile copy of bill may be secured by the use of a carbon.]

REPORT OF JOURNAL BEARINGS, AIR BRAKE HOSE, AND KNUCKLES APPLIED TO FOREIGN FREIGHT CARS BY TRAINMEN.

Place_____ Date_____19___

NOTE.—This report must be filled up—specifying the articles—by the conductor when journal bearings, air-brake hose, and knuckles for automatic couplers are applied to foreign cars. It must show the date; initials and number of cars; cause of removal, and in case of journal-bearings, the size of same. It must be forwarded by first mail to the division superintendent, who will in turn forward it to the superintendent of car department by whom bill is rendered against the owner of the car.

Applied _____

Cause of removal _____

Car No._____ Initials_____

_____
Conductor.

This form (specifying the articles applied) is used in place of the usual repair card. It is sent to the official, who keeps the record of material entrusted to the care of the conductor. After the articles have been credited by such official the report is sent to the superintendent of car department who makes the bill against the owner of the repaired car attaching the above report thereto.

C. D. Form 52.

FOREMAN'S REPORT (IN DUPLICATE) TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF WHEELS REMOVED FROM AND APPLIED TO FOREIGN CARS.

Car wheels removed and applied at_____ Date_____ 19___

_____ Foreman.

NOTE.—This report is to be made in duplicate and sent with the repair card stub, form C. D. 50, to the superintendent of car department immediately upon wheels being applied to and removed from foreign cars.

WHEELS REMOVED								AXLE	
Date	CAR		Makers	Date cast	No. on wheel or axles	Cause of removal of wheels	Shop marks on wheels and axles	Condition	Size of Journal
	NO.	INITIALS							

WHEELS APPLIED							
Date	CAR		Makers	Date cast	No. on wheel or axle	New or second-hand	Shop marks on wheels and axle	REMARKS
	NO.	INITIALS						

As this report forms the basis of a charge against the foreign company for the repairs, all information appertaining thereto should be furnished. The bill against the foreign company is made by the superintendent of car department. He should attach thereto the original of the above report, retaining the duplicate for his own use. Carbon should be used to secure the duplicate.

BILL AGAINST INDIVIDUALS, FIRMS AND CORPORATIONS.

C. D. Form 53.

Maker's No._____

To_____Railway Co., Dr.

For repairs to cars as per Master Car Builders' rules. For month of_____19____

NOTE.—If, upon examination, an error is found in the account, the papers are to be returned at once, to the maker, for correction.

REPAIRS MADE		CAR		DESCRIPTION OF PARTS REPAIRED	Value of miscellaneous materia		Cast	Wrought	Spring	Malleable	Lumber	Labor	CREDIT FOR SCRAP			
Date	Place	Initial	Number				Lbs.	Lbs.	Lbs.	Lbs.	Feet	Hours	Cast Lbs.	Wrought Lbs.	Spring Lbs.	Malleable Lbs.
QUANTITY																
PRICE																
VALUE																

Total amount of bill,		
Less am't for scrap		
NET CHARGE,	$	

I hereby certify that the above account is correct_____

Superintendent Car Department.

This form is used in making bills against individuals, firms and corporations, for repairs made to cars with which they are chargeable under M. C. B. rules. It is one of three forms made at one writing with use of carbons, viz.: the original, which is sent to the individual, firm or corporation against which bill is made; the duplicate, which is sent to headquarters for entry on the general books; the triplicate, which is retained for record in the office in which it is made.

C. D. Form 54.

JOINT EVIDENCE CARD.

.....Railway Co.

Report of improper repairs to.....cars.

Station..... Date.....19..

Car No.....initials.....received from.....R'y. at..... Date.....19..

Description of wrong repairs	How repairs should be made.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

We certify above to be correct { .....inspector for..... R'y.
.....inspector for.....R'y.

Show how carded on other side.

(The following is printed on back of above card:)

.....Railway Company.

M. C. B. DEFECT CARD. Issued by.....R'y., at..... Date.....19..

Inspector.....Reading as follows.....

.....

.....

.....

.....

.....

M. C. B. REPAIR CARD. Issued by..... R'y., at..... Date .. ....19..

Inspector..... ..... Reading as follows.....

.....

.....

.....

.....

.....

DISPOSITION OF CAR. Carded to.....shop; repaired; went forward without repairs.

When improper repairs have been made to a car by a foreign company, this card (printed on heavy card paper) is used to describe the location of the parts repaired or removed. It is sent to the company making the improper repairs and such company must furnish a defect card (form C. D. 47) covering the wrong repairs if made by it, as claimed. The joint evidence card is not to be used as authority for making a bill unless accompanied by a repair card (form C. D. 50) upon which a bill has been made. In the absence of a repair card, a joint evidence card is to be sent to the company against which evidence has been presented of improper repairs, and such company must furnish a defect card (form C. D. 47) covering the wrong repairs if made by it as claimed.

C. D. Form 55.

SHOP FOREMAN'S REPORT TO SUPERINTENDENT OF CAR DEPARTMENT OF PARTICULARS OF BRAKES, TRUCKS, ETC., UNDER PASSENGER CARS RECEIVING REPAIRS.

At_____ Date_____ 19____

NOTE.—This report must be sent to the superintendent of car department by the shop foreman and must include all cars passing through the shop. This for the purpose of determining whether any changes have been made in the equipment of the car while it has been in service, that have not been reported for record.

CAR NO.	WHEELS PER TRUCK	WHEEL BASE OF TRUCK	WHEELS		SIZE OF JOURNAL	NO. OF WHEELS BRAKED	BRAKE SYSTEM	SIZE OF CYLINDER	WEIGHT OF CAR	LEVERAGE	KIND OF BRAKE BEAM	SIZE OF U BOLT	KIND OF OIL BOX	NO. OF PEDESTAL
			KIND	SIZE										

The object of this report, as stated, is to insure an authentic record in the office of superintendent of car department.

C. D. Form 56.

RECORD OF SUPERINTENDENT OF CAR DEPARTMENT OF PASSENGER CARS.

Name or No. of car..... Class of car..... Built or rebuilt.....19.. By.....

Length over all.....
Width " " .....
Height " " .....
No. of wheels per truck.....Wheel base of truck.....
Kind of wheels.....Size of wheels.....
No. of windows.....Size of glass.....
Style of interior finish.....
Kind of heater .....
Illumination.....No. of lamps.....
General description of interior arrangements:.....

Length over sills.....
Width " " .....
Height from top of sills to bottom of plate.....
Total wheel base of car.....
Kind of coupler .....
No. of deck sash .....Size of glass.....
Seating capacity.....
Weight .....Leverage.....

IN SHOP		DESCRIPTION OF REPAIRS	WHEN PUT INTO SERVICE
Date	Shop		

This record book is written up in the office of the superintendent of car department, a separate page being kept for each car and all changes in the structure of the car duly recorded. When a car is in the shop for repairs, the date and name of the shop is shown; also a description of the repairs and date the car was returned to service.

C. D. Form 57.

RECORD OF SUPERINTENDENT OF CAR DEPARTMENT OF FREIGHT CARS.

Number of car	LENGTH	WIDTH	CAPACITY	WEIGHT	BUILT BY	When built	REMARKS
01							
03							
05							
07							
09							
11							
13							
15							
17							
19							
21							
23							
25							
And so on down to 100							

This record book is kept in the office of the superintendent of car department. In the column headed "Remarks" is entered information regarding special changes or repairs, such as repainting, relettering, etc. When the number of a car is changed to some other number, a notation to that effect is made opposite both the old and new numbers. The number of the page of the record book furnishes an index to the car number; thus if the car number is 60025, the book should be opened at page 600, and the number 25 will show the record of the car. Two books may be kept; one for odd numbers of cars and one for even numbers.

"A" C. D. Form 58 for Light repairs.
"B" C. D. Form 59 for Medium repairs.
"C" C. D. Form 60 for Heavy repairs.

INSPECTOR'S NOTICES TO BE ATTACHED TO CARS NEEDING REPAIRS.

A	Initial or line _____ Number _____ _____ _____ _____ _____ Repaired _____

NOTE.—There are three cards of this description printed on different colored cardboard, viz.: "A" on white paper; "B" on purple paper; "C" on yellow paper.

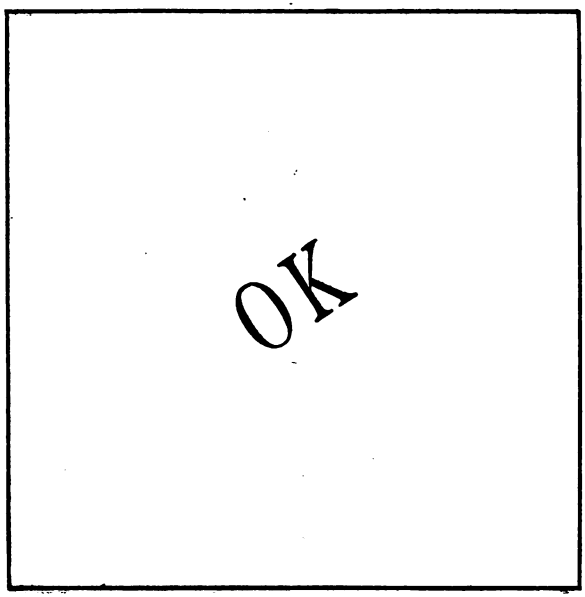
The A card is attached by inspectors to cars requiring Light repairs costing not more than $15.00.

The B card is attached by inspectors to cars requiring Medium repairs, ranging in amount from $15.00 to $40.00.

The C card is attached by inspectors to cars to be Rebuilt or requiring Heavy repairs, ranging in amount from $40.00 upwards.

C. D. Form 61.

INSPECTOR'S "O. K." CARD INDICATING CARS READY FOR SERVICE.



This notice (printed on heavy cardboard) is attached to each end of every car in repair yard that has been repaired and is ready for service. It is commonly used only in wet weather, chalk being used at other times.

C. B. Form 62.

INSPECTOR'S CARD FOR FREIGHT CARS EQUIPPED WITH OIL HEATERS.

HEATED CAR.

(Printed in heavy red ink letters.)

This car, Initial_____ Number_____ is supplied with oil heaters Nos._____ and_____. Attention must be given same by all parties handling car to see that temperatures are kept to right point and that there is no danger from fire.

(Printed in black ink.)

NOTE.—A card of the above form (printed on heavy cardboard) should be tacked to the door on each side of every car equipped with oil heaters. The heaters must be filled with kerosene oil and put in good condition before leaving loading points The reservoirs of heaters must be filled to within 2½ inches of the top. The heaters must not be allowed to remain in the cold after reaching destination without emptying the water which might otherwise freeze and damage the heater. The wicks must not be turned up too high, and the ratchet wheel must be well caught in the wick so that it will not be shaken down in transit. The traps in drain pipes of ice boxes must be opened or other means provided of giving the heaters a sufficient supply of fresh air. Heaters should be placed in cars and lighted at least one hour before leaving terminal. The oil reservoir when filled will burn from 16 to 24 hours. Kerosene oil only should be used. THIS CARD MUST BE REMOVED FROM CAR DOORS WHEN HEATERS ARE TAKEN OUT.

This card is fastened to the doors of cars in which there are oil heaters; this for the purpose of attracting the attention of those handling the cars as they are expected to see that the temperature is properly regulated.

C. D. Form 63.

INSPECTOR'S CARD FOR CARS LOADED WITH INFLAMMABLE MATERIAL.

HANDLE CAREFULLY

(Large type; red ink.)

THIS CAR IS LOADED WITH

INFLAMMABLE MATERIAL

(Large type; red ink.)

In case of leakage, report immediately to the station agent, and place car where it will not be exposed to fire or subject employes or others to danger.

Station..... Initial of car..... No. of car.....

Date..... .....Foreman.

NOTE.—It is the duty of the inspector in charge of yards where oil tank cars and other cars containing oil, are received, to securely attach one of these cards (printed on heavy green cardboard) on each side of the car on some part of the side sill, or other conspicuous place where it can be easily seen, so that it may serve as a warning to trainmen in handling the car. Care must be exercised in the inspection of such cars; particularly when found to be in a leaky condition. In the latter case the car must be at once reported to the agent in charge of the station, so that he may take such action as is best in disposing of the load. Care must also be exercised in the use of lights about these cars. Every effort to facilitate the movement of such cars must be taken on the part of the car department; nor must it lose time in reporting the condition of the car and in making needed repairs when possible. If unable to make repairs the fact should be reported to the proper official, that advice and assistance may be rendered.

HOME ROUTE CARD. C. D. Form 64.

FROM

_____ R. R.

TO

_____ R. R.

VIA

_____

Car No. _____ Initials _____

To be shopped for _____

_____

_____

_____

_____

Superintendent Car Department.

Whenever a foreign car is unsafe to load—due to age or decay—the owner must be advised at once. If he wishes it sent home, he must furnish two home route cards (printed on heavy white cardboard and duly signed) of this form. He must note thereon the defects of the car and the route over which it should be returned home. These cards should be attached to each side of the body of the car. The cards are printed alike on both their sides and are written up with ink or indelible pencil.

C. D. Form 65.

PENALTY CARD.

SPECIAL HOME ROUTE CARD.

Home route via _____ R. R

at _____

To avoid PENALTY

this car must be given movement to above junction point in preference over everything except time freight and live stock, and delivery must be made to home road or connecting line on or before

_____ 19___

(Printed on red cardboard in conspicuous type)

A foreign car may be used by a company under the per diem system for the agreed number of days for the minimum charge (say 20c per day). If the car is kept by the company more than the stipulated number of days a penalty charge per day (in addition to the per diem rate) is charged for every day that the car is thus held. A penalty notice is sent by the company owning the car to the company on whose line the car is retained (after the car has been on such line twenty consecutive days), giving the date when the holding company will be penalized. On receipt of such notice the agent at the station at or near which the car is located is promptly notified in order that he may start it at once on its way home after attaching the penalty card described above.

C. D. Form 66.

REPORT OF INSPECTION OF CARS AFTER AN ACCIDENT TO EMPLOYES OR OTHERS.

This form is used to report the details of accidents when persons are killed or injured by, or around cars. It is designed to enlighten the officers of the company as to whether the accident was occasioned by defective condition of the equipment or otherwise. (Carbons may be used in making the copies.)

Where inspected..... Date.....19....
Initials, numbers and class of cars inspected.....
.....
Name of person injured or killed*.....
Nature of accident .....
Location and date of accident.....

INSTRUCTIONS.—If persons are injured or killed while coupling or uncoupling cars, or in any other way when the accident may have been caused by defective condition of the equipment, the cars must be immediately examined, to ascertain their condition. Report must be made of the inspection, giving all information regarding condition of the cars that will throw any light on the cause of and responsibility for the accident. This examination should be made by the inspector or car foreman (or such other employe as may be designated by the proper official), assisted by at least two other employes as witnesses, who must also sign the report. This report should be made in triplicate, immediately after examination of cars, and a copy sent by first mail to the general claim agent, division superintendent, and superintendent of car department, respectively.

COUPLERS.

Kind on each car?.....
Height from top of rail to center of draft line?.....
In what condition?.....
If in bad order, how marked and where?.....
Were cars equipped with castings or buffers at either side of couplers?.....
Were knuckles, chains, pins and clevis in good order? .....

BRAKES.

Kind on each car?.....
In what condition?.....
If broken, how caused?.....

LADDERS.

On sides or ends of cars?.....
In what condition?.....

GRAB IRONS.

Location on cars?.....
Height from floor of cars?.....
In what condition?.....

RUNNING BOARDS.

In what condition?.....

MISCELLANEOUS.

Were there any platforms on cars?.....
Were cars loaded or empty?.....
What repairs have been made to cars since accident?.....
Remarks (give here any general information regarding the condition of the cars not included in the above) .....
.....
.....
.....

Signature of person making inspection.....
Occupation.....

We, the undersigned, were present and helped make the above examination and hereby certify that the facts as stated by.....
in above report are true.

Signature of witness.....
Signature of witness.....

* Strike out "killed" or "injured," as the case may be, if the accident does not cover both classes.

C. D. Form 67.

DISTRIBUTION BLANK FOR MATERIAL USED.

_____Office, _____Division. Folio_____

DISTRIBUTION OF MATERIAL, for the month of_____19___

Chargeable to "*Repairs of Passenger Cars*" (to illustrate).

This form is used by storekeepers and other officials and employes who have charge of material and are required to make return thereof for purposes of accounting and otherwise. A separate heading ("Chargeable to") is opened with each account on which material has been expended so far as the same is required to be specifically stated by the regulations of the service. The blanks are furnished in loose (detached) sheets so that the person who writes them up may take an impression (or carbon) copy before they leave his hands; this in order to save the clerical work that would otherwise be required in making a written copy. The impression is retained for local use and the original sent to headquarters.

The sheets are eyeletted so as to enable the person making the return to collect them together (in due order) and bind them in book form before they leave his hands. Covers (similarly eyeletted) for the books thus formed are furnished with the blanks. The recapitulation of the accounts charged (to be given in the back part of the book) must be signed by the storekeeper or official making the return.

C. D. Form 68.

DISTRIBUTION BLANK FOR LABOR PERFORMED.

_____Office, _____Division. Folio_____

DISTRIBUTION OF LABOR, for the month of_____19____

Chargeable to "*Repairs of Freight Cars*" (to illustrate).

	NAME	KIND OF SERVICE	Folio of time book	Time worked	RATE	Detailed Amount		Total Amount		

Blanks of this form are used by storekeepers and other accountants who are required to render returns for labor. A separate heading (*i. e.*, the name of the general account) is opened with each account on which labor has been expended so far as the same is required to be specifically stated by the regulations of the service. The blanks are furnished in loose (detached) sheets so that the person who writes them up may take an impression (or carbon) copy before they leave his hands; this in order to save the clerical work that would otherwise be required in making a written copy. The impression is retained for local use and the original sent to headquarters. The sheets are eyeletted so as to enable the person making the return to collect them together (in due order) and bind them in book form before they leave his hands. Covers (similarly eyeletted) for the books thus formed, are furnished with the blanks. The recapitulation of the accounts charged (to be given in the back part of the book) must be signed by the accountant or storekeeper making the return.

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